Address in Bacteriology.

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MR. PRESIDENT AND GENTLEMEN,—Had it been announced twenty years ago that one of the annual addresses delivered before this Association would be devoted entirely to a review of the subject, or part of the subject, of bacteriology, such announcement would have been received as coming under the category of prophecies not likely to be fulfilled; and without claiming any very large share of modesty or self-depreciation, I cannot but feel that it is to the unexpected fulfilment of this imaginary prophecy that I owe my present position—a position that would be only too eagerly sought after from the honour that its occupation confers on the holder, were it not that the responsibilities placed on his shoulders must necessarily weigh heavily enough to interfere most seriously with the full enjoyment of the honour. Bacteriology, though a comparatively new science, has already made so deep an imprint on the science and practice of medicine that the enumeration in catalogue form of the various facts upon which, according to our present knowledge, the solution of important medical and surgical questions depends would occupy a much longer time than we have at present at our disposal; it will be my aim, therefore, to indicate very briefly the extension and limitation of bacteriology in its relation to medicine. It may be stated at the outset that in this matter extremists have little claim to be considered, and that, although most thoughtful men maintain that bacteria play a most important *rôle* in the production of disease, it is equally certain that no claim for anything beyond such important share can be claimed for the most virulent of pathogenic microbes. Outside the question of the relation of micro-organisms to the special forms of surgical fevers, a knowledge of the life history of bacteria and the relation of these organisms to specific infective disease is essential to every scientific student of medicine; so definitely, indeed, has this come to be acknowledged that in all our Public Health examinations a knowledge of bacteriology is insisted upon, whilst in many of our civil and military appointments both at home and abroad a fairly intimate knowledge of the theories as to the relations of bacteria to disease is looked upon as constituting a most important qualification in the case of candidates presenting themselves for examination. If, then, the public services are taking up this position, how much more necessary is it that an important Association such as that which I have now the honour to address should wish to encourage its study by such means as they have in their power. As you are aware, some of the earliest and best work on bacteriology has been done by your research scholars, and many of those who have begun this work under the auspices of our Association have made it part of their life work. To mention one example only out of many, Watson Cheyne's accurate work on the life history of the bacillus tuberculosis and on the special relation of this bacillus to tubercle of bones and joints forms a most valuable contribution to bacteriology and surgery.

It has been too much the fashion to look upon bacteriology as an art rather than a science. It was supposed that if we were able to obtain evidence that a definite micro-organism was associated with a specific disease, and that if we could find a means of destroying this organism, or of preventing its access to the tissues the limits of bacteriological teaching would be reached. Thanks, however, to the genius of such men as Pasteur, Koch and Lister, bacteriology is now looked upon as a branch of science the study of which may afford us help in the solution of even fundamental problems in biology; it has assumed such importance that into its service have been pressed the general biologist, the botanist and the pure physiologist; whilst all who practise medicine and surgery feel that they must, at least, be conversant with the principles that underlie its study. I know there are some who will not agree with this, and who will tell us that we are bacteria mad; and whilst acknowledging that in taking up this comparatively new subject we may have been led to attach undue importance to it, it must be conceded that, studied in its broader aspects, bacteriology has enabled us to grapple with some of the most difficult questions in medicine. Can an astronomer be accused of narrowness of vision because sometimes he may be found looking through the telescope which covers a limited field and is studying with especial care a small area of the heavens? Which of us can tell of the boundless space and the countless worlds that are opened up by these seemingly narrow studies? The observer collects his data, applies the laws of physical science as at present set forth, formulates and proves new laws, and opens up and argues on a world so utterly beyond us that his facts to those uninitiated read like the wildest fiction, and his descriptions like poetry and romance.

It would be a waste of your time were I to attempt to trace the history of fermentation, of putrefaction, of septic conditions and of the relation of bacteria to certain diseases, but it may perhaps be of advantage to insist that there has been a continuous evolution and extension of our theories in regard to the nature of the action and interaction of bacteria on the tissues and organs of the human body. First, there was the mechanical theory, in which it was maintained that death of the host was due to the impaction of groups of micro-organisms in the capillary vessels; then came the theory that these organisms used up the oxygen so rapidly that the tissues received an imperfect supply and somatic death ensued. Both of these may be partial explanations, but we have now presented to us quite different explanations. The administration of phosphorus is followed by grave changes in the tissues, and fatty degeneration occurs—how this is brought about it is difficult to say; similar degenerations are found in certain diseases set up by micro-organisms. Do such organisms, then, when introduced into the body, act directly by taking up and using for their own purposes the oxygen which would otherwise be applied to the nutrition of the tissues? This appears to be very unlikely. Do they attack the tissues directly, making their way into the substance, and so devitalising them that they are unable to perform their proper functions? Do the products formed by these organisms act directly on the cells, and interfere with their functional activity, causing direct devitalisation and degeneration of the protoplasm? Do the cells, when called upon to perform extra work in getting rid of these organisms or of their products—both of which must be looked upon as foreign bodies—undergo such excessive stimulation that the supply of oxygen is not equal to the demand, and the functional activity of the cells being in excess of their facilities for nutrition, their protoplasm then undergoing changes described as cloudy swelling, which in turn are followed by fatty degeneration just as in phosphorus poisoning? At one time it would have been deemed impossible to answer these questions; but as the study of the chemistry of bacteria has been utilised, our information on these points has become more and more definite, and as this definite information has been obtained, it has become possible to indicate some at least of the processes that are going on in certain of the specific infective diseases, and to draw inferences, some of which, however, have still to be put to the proof, as to the methods to be adopted in waging war against bacteria. One of the most important outcomes of the study of the relations of bacteria to disease is that we have now a pathological chemistry which, though still in its infancy, has a great future. Hitherto physiological chemistry has merely been elaborated and extended in order that it might be applied to the examination of certain products and excretions met with as the result of diseased conditions of various organs; but beyond enabling us to make search for slightly modified physiological products, this physiological chemistry has helped us but little.

The influence that bacteriology has had on medicine and surgery is best appreciated when some special process or condition is followed in its etiology, progress and determination; for example, the study of bacteriology has revolutionised our conception of the whole subject of inflammation, and has enabled us to bring into harmony theories and interpretations of facts which hitherto have appeared to be diametrically opposed to one another. Virchow's observations on the changes in the fixed and parenchymatous cells were supposed to clash with those processes of emigration of leucocytes and changes in the walls of the vessels set forth by Wharton Jones, Waller, and Cohnheim and their disciples. A battle royal waged between those who held that there could be no inflammation without vascular phenomena and those who maintained that these vascular phenomena were merely secondary events. In connexion with this subject Metchnikoff has pointed out that

in the human subject and the higher animals, on which experiments were at first exclusively made, it is impossible to set up any definite irritative changes without calling to our aid traumatism or some form of chemical irritation; and also that in such experimental subjects even the tissues which in a normal condition are extra-vascular have, under the slightest irritation, a tendency to return to their embryonic vascularised condition. It was then found that certain bacteria when introduced into the tissues had the power of setting up rapid but easily followed inflammatory changes; and, lastly, the pathologist and the zoologist have combined to ascertain whether changes comparable to those set up in inflammation could be set up either by bacteria or through their irritant products, when brought in contact with lower unicellar organisms or with simple organisms in which no bloodvessels are ever developed, and another advance was made. Roser (quoted by Metchnikoff) maintains that inflammation is a disease due to infection by microbes and that the phenomena observed in repair are really the result of inflammation, or rather that they constitute those processes that end in resolution or the cure of inflammation itself. At one time such a theory would have been received with ridicule, and even now it is impossible to prove that inflammation is in all cases due to the presence of micro-organisms or their products.

It is only by a careful study of the processes described as occurring in lower organisms that we can gain any accurate conception of the differences in the processes set up by mechanical injury and those induced by the presence of micro-organisms. But we have now undoubtedly come to look upon inflammation as only one of a series of changes, all of which work towards a definite end: first, the getting rid of foreign bodies, whether organic or inorganic, whose presence might exert a deleterious influence on the tissues in which they are lodged; and, second, the repair of the breach that has been left at the point at which these foreign bodies have entered or been extruded.

The soluble products derived from pure cultures of micro-organisms are now known to be composed of a large number of different substances, to isolate which various attempts—many of them unsuccessful—have from time to time been made. None have been more successful than those carried on in this country by Burdon Sanderson, Sidney Martin, Halliburton, Brunton and MacFadyean, R. W. Philip, Hankin, Ruffer, Crookshank and Herroun, William Hunter, Cartwright Wood and others whose work, though not so frequently referred to, is still of great value To no one was this fact more evident than to one whose loss to pathology we have now cause to deplore. I refer to Sir William Aitken, whose death deprives the profession of one whose greatest concern it was to advance and encourage the study of pathological chemistry—especially in the sense in which we are now using the term—amongst his followers. His address delivered before the Pathological Section of the Association at the meeting held in Glasgow was full of suggestion and of the results of research. He had grasped the true value of the subject, and although in recent years, owing to failing health, he had been unable to carry on original research himself, he was still able to leave the imprint of his mind on a subject the welfare of which he had so near at heart by the encouragement that he gave to younger men, both by his advice and by the enthusiasm which he still retained with his ripening experience. Another who had already done work at this subject, but who gave promise of much greater things, Dr. H. J. Tylden, whom many of us delighted to have as a friend and collaborator, has been cut off when his work still appeared to have been but begun. Dr. Tylden has gone, but the remembrance of his energy, cheerfulness and determination will remain as a help and stimulus to all who knew him and appreciated these features in his character. In order that we may focus more accurately the nature of the work which has been done in connexion with bacteriology let us confine our attention to a single disease—diphtheria—in which, as the result of the use of bacteriological and chemical methods in its study, we can now recognise with a moderate degree of certainty, not only that we have to do with a specific organism, but also how this organism acts. Loeffler, who first made pure cultures of the diphtheria bacillus, originally described by Klebs, found that, after removing the microbe from the liquid nutrient culture medium, by passing it through a cylindrical porcelain filter and injecting the filtrate into a guinea-pig he was able to determine not only the same kind of local reaction that was obtained when the organism itself was introduced into the subcutaneous tissue, but also those paralytic symptoms so characteristic of the later stages of diphtheria. Then by extracting with a watery solution of glycerine, filtering, and dropping the filtrate into absolute alcohol he obtained a flocculent precipitate, which could be washed and re-washed with alcohol without passing into solution. This substance, readily soluble in water, still retained its power of setting up distinct local reaction after being washed, dissolved, re-precipitated, and again dissolved. Roux and Yersin, accepting Loeffler's statement that the poisonous material appeared to be a ferment-like body, repeated and extended his experiments. They made observations on the nature of the swelling set up at the point of inoculation by the organisms or by the poisons; they noted that, although there might be congestion and effusion into the serous cavities, evidences of fatty degeneration of the liver and kidney, and characteristic diphtheritic paralysis, no organisms could be found beyond the seat of inoculation. From this they argued that the poison formed at the seat of inoculation must be diffused by the lymphatics and bloodvessels into every part of of the body; that it might attack the nervous and muscular tissues, especially apparently the peripheral nerves, so giving rise to degenerative changes in them and in those tissues which appear to be involved in the process of conversion, secretion, and excretion of the poisonous substances. These observations were entirely in accord with clinical experience. The degenerations that are met with in the kidney and in the liver in cases of diphtheritic animals are essentially similar to those found in children who have succumbed to diphtheria, whilst the symptoms of peripheral paralysis and the changes in the nerves appear in the two cases to correspond in the most minute features. These observers were convinced that it was some special part of the products of the diphtheria bacillus that gave rise to these symptoms, and they, after various experiments, came to the conclusion that the active substance was not actually precipitated by the alcohol, but that it was entangled and carried down by the alcoholic precipitate.

Sidney Martin, going a step further, succeeded in separating certain substances, each of which, appeared to exert a definite effect on certain tissues and functions, and to give rise to special symptoms and distinct pathological changes. He compared their physiological actions with those of similar or allied substances obtained from anthrax patients and cultures or from cases of ulcerative endocarditis and tetanus, and found that the albumoses—intermediate products between non-dialysable albumens and dialysable peptones, substances, comparable as regards their structure and chemical reactions to those formed during the process of peptic digestion, could be separated not only from the membrane of diphtheritic patients, but also from the spleen and blood of the same patients, and from pure artificial cultures of the Klebs-Loeffler organism as cultivated by Klein and himself, and that they produced very definite local effects when injected subcutaneously—a condition that was usually accompanied by marked rise of temperature, paralysis, fatty degeneration of certain of the peripheral nerves—both motor and sensory—of the heart muscle and in a minor degree of certain other organs. These features were observable even when a single dose only was given, but were much more marked when small but oft-repeated doses were exhibited. The marked wasting and degeneration, which, in many cases appears to have been progressive and continuous, indicates that we have here to do with a direct poisonous action of the albumoses on the protoplasm of the tissues that they specially affect. Martin, who had previously described a powerful alkaloid or organic base in the products of the bacillus anthracis and in the blood and organs of anthrax patients, was naturally led to look for a similar substance in the diphtheria products; but here, as if to accentuate the difference that may exist between the poisonous substances produced by two different organisms, he found not an organic base, but a substance which he speaks of as an organic acid, as, although it was separable by the same processes as those used to isolate the base or alkaloid, it was found to have the characters of an acid. This organic acid had, however, the same—but markedly feebler—physiological action as the albumose, also giving rise to nerve degeneration.

In the diphtheritic membrane where—as in ulcerative endocarditis—the organism is growing on coagulated fibrin, a substance which is readily digested by and prepared for the nutrition of the organisms found in these diseases, albumoses are always found accompanied by an extremely

virulent substance entangled in the proteid of the membrane, and precipitated by alcohol. This substance is similar in all respects to the ferment-like body described by Roux and Yersin. It is attenuated by heat, destroyed by boiling, and is characterised by the same (but more intense) physiological actions as the albumose and the organic acid, extremely minute doses producing very grave symptoms. Diphtheria, then, is entirely dependent for its specific symptoms on the diphtheria bacillus, experiment corroborating clinical observation in a most remarkable manner. This bacillus does not readily attack healthy individuals, but where there is slight ulceration of the throat or slight fibrinous exudation on the surface of the tonsils or the posterior surface of the velum palati, diphtheria often makes its appearance. Sometimes the exudation appears to be associated with the local action of the diphtheria bacillus itself, but usually the diphtheritic process appears to be grafted on small patches of ulceration and exudations. Experiment offers the explanation of this fact. The diphtheria bacillus does not appear to have a very marked power of attacking healthy mucous membrane; but when it finds a nidus in devitalised cells and coagulated fibrin, it is able to produce its special secretion or "enzyme," part of which acting on the fibrin, just as the enzyme met with in the stomach acts on food, rapidly transforms the insoluble and undialysable fibrin into soluble albumoses, some of which in turn are utilised for the nutrition of the micro-organism, whilst the remainder of the enzyme and the products of its action on the fibrin, absorbed by the lymphatics and blood-vessels, are carried into the system, where they act on the tissues and organs already mentioned, and, after being broken down into lower molecular combinations, are excreted. Before, however, we can accept this ferment-like body as an enzyme, the power of conversion of a large quantity of proteid must be more definitely proved. It is to the presence of these three sets of products that the symptoms of diphtheria and the changes met with in the tissues are due, and, as Martin points out, all three sets of poisonous substances may be obtained from pure cultures of the specific diphtheritic organism. In diphtheria, then, the bacillus is the primary infective agent. It, as a result of its vital activity, produces a powerful enzyme—Martin's secondary infective agent. Part of this enzyme, acting locally on the coagulated fibrin on which the organism is subsisting, converts it into various soluble products known as albumoses; some of the enzyme, being absorbed, continues the process of conversion in those tissues and organs in which it is allowed to remain long enough in contact with the proteids contained in the fluids of the body. This conversion, as Martin indicates, is specially well marked in the spleen, through the spaces of which the blood passes extremely slowly, so that it is allowed to remain in contact with the enzyme for some time, during which the albumoses are broken down into much less complex chemical substances, the most important of these in diphtheria being the organic acid, whilst in anthrax it is an alkaloid or organic base, the less complex organic acid being less virulent than the albumose, whilst those bodies of still less complex molecular constitution appear to be little more noxious than ordinary effete products.

The semi-final product of the bacillus of anthrax is, however, the most active cause of death, the alkaloid exerting a far more powerful physiological action than the intermediate albumoses which in diphtheria act so much more energetically. It is interesting to note how the definite changes set up by these poisons correspond to those set up by inorganic poisons, such as phosphorus, antimony and by some of the organic compounds which induce fatty degeneration through a direct action on the protoplasm, which—unable to obtain extra-cellular material to carry on its functions under increased stimulation—has to fall back, as it were, on its own protoplasm, which is rapidly converted from proteid into fatty matter. Here, then, with the protoplasm overstimulated and wasted, and with the products of the micro-organism still present in the blood, the process of wasting becomes progressive; owing to the previous wasting normal stimulation is now excessive; the degeneration may go on even after the poison has been removed, and ultimately the patient may die of failure of certain organs when all danger from the direct action of the poison appears to have passed by. We now know that in the case of the microbes of suppuration, hog cholera, tetanus, tubercle and some other diseases the poison is actually combined with the protoplasm of the micro-organism, and it is quite possible that in these cases of "marasmus," or progressive wasting, the toxine may be given up for long after the organisms themselves are dead, and thus may keep up well-marked irritation and stimulation of the protoplasm; the condition of "marasmus" continuing after the microbes are dead, and therefore—as was at one time supposed—innocuous. Bacteriological chemistry thus supplies another diagnostic factor in the detection of specific infective disorders. Martin points out that to Koch's four cardinal rules a fifth may be added—that is, that the secondary infective agent, the chemical poison separable from the tissues in the natural disease, should exert a definite physiological action, and that this poison should be similar, both chemically and physiologically, to the products obtained from a pure artificial culture of the primary infective agent—the micro-organism. Specific chemical differences may not always be present, but by combining what we know of the chemistry of these products with their physiological or pathological action we may still be able to determine how far a disease is specific, and how far, therefore, it is due to the presence of a primary infective agent. By the assistance of the above factor it may be possible to unravel the etiology of certain disorders which up to the present have defied the most pertinacious efforts of the pathologist and bacteriologist. It is not within the reach of everyone engaged in general practice to make chemical examinations; though, from the lucid way in which some of our recent workers have set forth their methods, it is a comparatively easy matter to carry on the first stages of the processes from which point the expert may continue the research. It is possible, however, as Roux and Yersin have pointed out, for everyone engaged in the attendance on patients in whom the presence of diphtheria is suspected to settle the question for themselves, and to gain information, not only for their own guidance in the treatment of the case, but also for the use of the medical officer of health, whose duty is often rendered both difficult and unpleasant, where any doubt as to diagnosis in such cases exists. Roux and Yersin find that if they remove part of the diphtheritic false membrane by means of a platinum needle flattened at the end, to form a kind of spatula, pass the same needle without recharging over the surface of a series of layers of specially prepared blood serum, and incubate at from 33° to 35° C., the diphtheria bacillus is the only one of the commoner micro-organisms that makes its appearance within twenty hours. Colonies visible to the naked eye as small rounded greyish-white points (the centre of which, owing to the somewhat greater thickness, is more opaque than the periphery) are then seen. So rapid is the further growth of these colonies that they are large, well-developed discs before any other organisms form colonies at all visible to the naked eye; from these pure cultures may be readily obtained, and may be examined at once or sent to some expert bacteriologist. The appearance and rapidity of the growth alone are quite sufficient to justify the medical attendant of the case in deciding that he is dealing with diphtheria, information which cannot be obtained by ordinary methods of diagnosis, especially in those very doubtful cases where the patches are comparatively small and ill-defined. Quite recently Sahkaroff has utilised the boiled white of egg as a culture medium for this diagnostic purpose. He takes a boiled egg, carefully removes half the shell, and with a knife that has previously been heated cuts from the surface small strips just large enough to go into a test tube, which has first been sterilised by heat in the following manner. Put two-thirds of an inch of water into a test tube, plug the opening with cotton wool, and allow to boil briskly over a spirit lamp or Bunsen flame. As soon as a little more than half of the water has boiled away, put aside to cool; the egg is then placed in the tube. Cultures are made as on the serum, and incubated at from 35° to 38° C., and at the end of twenty-four hours small greyish growths, from which cultures or cover-glass preparations may be made, appear on the glistening surface of the coagulated albumen. This process may not be quite so accurate as the serum method, but it is so easy to carry out that it should prove invaluable as a diagnostic aid in doubtful cases of diphtheria.

I should here like to suggest that the Association for the Advancement of Medical Research, which has already done such valuable work, not only in encouraging but also in controlling research might undertake to assist in this matter. If properly supported by the profession it might supply media of various kinds to those who wish to engage in this kind of work, for, although it is entirely a matter of money at present, it cannot but be felt that a small subscription (if a large number of members of the profession would take this in hand) would be ample to enable such

a scheme to be carried out; and, moreover, although I do not see how the Conjoint Colleges could be expected to do more than they have done in facilitating research in this country, I am convinced (though I have not broached the subject) that if any well-matured plan, backed by sufficient funds to pay for a couple of young men who with slight training in experimental work would be able to prepare and do the rough examination of material, were put before them, they would not be unwilling to place some accommodation at the disposal of the Society in order that the scheme might have a fair chance of proving a success. A retaining fee might be paid to certain experts, whose duty it should be to give reports on specially interesting cases. At present there is no organisation or centralisation; specimens, badly preserved, are sent up in a haphazard way, accompanied or followed by a note to the effect that it is hoped that the person to whom they are sent will examine and send a report. If the expert happens to be interested in the special subject he will make a very thorough examination and will forward a report sooner or later; if he is not, the chances are ten to one that the specimen will be left until he has sufficient leisure after he has done his own proper work, and as young men of our profession are as a rule not endowed with too much of the good things of this world, they are usually so occupied with their own investigations and with trying to make both ends meet, that the examination is put off to the Greek kalends. If, however, men were specially retained and were paid a moderate fee for each investigation, they would be eager to do the work and would feel that they were not neglecting their own interest or the interests of those dependent upon them, whilst those for whom the examinations are made would have far less reluctance in sending specimens for examination were they but assured that they were taking up no one's time without making some adequate return. Not only so, but an investigation for which a fee is charged is always of more value both to practitioner and patient than an examination—done in the leisure moments of a friend or acquaintance—for which no charge is made. I should not have mentioned this matter did I not believe that pathology suffers very greatly from the want of some such organised plan of work; it is not a matter which any private individual can take up, but it is one that if taken up by the Association mentioned—especially if backed up by a grant from this Association—might prove of enormous value to the profession at large. It would, of course, be necessary to make a fixed charge for each examination, the charge varying with the nature of the work; but it might be that every subscriber of a guinea and upwards per annum should have the privilege of having his specimens examined for half the tariff price.

I had intended to deal to-day with the subject of anti-toxines—that is, substances which are said to be formed when bacteria or their poisonous projects are injected into the fluids or tissues of an animal, and which are supposed to be the important factors, not in the production of immunity, but in the actual cure of specific infective diseases. I find, however, that Sternberg, in a recent address on the practical results of bacteriological researches,[1] goes into this matter very thoroughly, and gives a short summary of the results obtained in numerous experiments with anthrax, rabies, diphtheria, tetanus, croupous pneumonia, swine erysipelas, and also with ricin (the active poisonous principle in the castor-oil bean), and abrin (the similar product of the jequirity bean), all of which are brought forward to support the theory that wherever a poison is developed in the body an anti-toxine—a substance which is supposed to neutralise the effect of a poison—is rapidly developed, with the result that neither specific organisms nor their poisons can continue to have any effect on the animal host. Many of the experiments made by different observers who have laid claim to the presence of these anti-toxines have failed to give results in the hands of other workers. It cannot, merely on this ground, be assumed that the first results are inaccurate, for all who have experimented with bacteria know only too well that the results they have been able to obtain have differed so greatly when the conditions of the experiment have been only slightly modified, that the personal element of the equation in these problems, in which we are to a certain extent groping in the dark, must necessarily be a most important factor. On the other hand, it should be distinctly understood that until the crucial experiments have been repeated time after time, in different schools, and under known conditions by all who are determined to obtain reliable data, we are not justified in accepting them as proved.

Allowing that many of the experiments are perfectly trustworthy the results obtained by various workers at different diseases have been so contradictory that it may well be asked what is the explanation of such divergences. In the first place there is not a sufficiently marked line of demarcation drawn between the curative action of the anti-toxines and the production of immunity; the two are perfectly distinct, though they are too frequently inextricably confounded in respect to the interpretation of experiments. For example, it is quite possible that an anti-toxine when introduced either into a pure culture of a specific organism or in the body of an animal in which this organism is growing may prevent or neutralise the action of the toxine formed by this same organism, whilst it may not exert the slightest influence in inducing an increased insusceptibility to the attack of the same organism; on the other hand, it is found, as Metchnikoff has recently demonstrated for hog cholera, that the serum from an animal vaccinated against this disease (which is then supposed to contain the anti-toxine), just as in the case of serum from an unvaccinated animal, allows of a most luxuriant growth of the hog cholera organism, and that it certainly exerts no anti-toxic action when injected into an animal suffering from the disease. But when the serum from a vaccinated animal is injected from time to time into the circulation of a non-vaccinated animal, it is found to confer, just as Martin found on injecting anthrax blood similarly treated, a very marked insusceptibility to the specific disease, whilst the serum of animals not previously rendered immune when injected into non-vaccinated animals exerts no protective influence, the disease being developed just as in animals previously unexperimented upon.

If now we consider that this serum from vaccinated animals serves as an excellent cultivating medium for the growth of the micro-organism of hog cholera, as, too, we find that when sterilised products of a culture of hog cholera bacillus or the blood taken from an immune animal do not interfere with the action of the special poison when introduced simultaneously into the circulation, it must be concluded that such sterile product does not act directly either on the bacillus or on the poison produced by the bacillus; on the other hand, as this same substance introduced into the circulation of the animal undoubtedly exerts a certain protective influence we are compelled to the conclusion that this serum—or rather some body present in it—must act directly on the protoplasm of the cells of the body. Metschnikoff argues that it must act as a stimulant, for it is generally accepted that there is a definite protection for most specific diseases. It is of course not necessary to assume that only the migratory leucocytes are so modified, for although the leucocytes, on account of their motility and powers of migration and emigration, are first called upon to resist the attacks of invading organisms and their products, all the cells—especially those in contact with the circulating fluids—must be modified as they come in contact with the poisons carried in these fluids, and thus be gradually inured to carry on their work, even under extremely disadvantageous conditions; for there can be little doubt that these other cells have frequently to help, under special stimulation, to join issue with the micro-organisms and their products that have passed beyond the sphere of operation of the leucocytes at the point where the primary invasion occurs. It is to this ultimate modification of the protoplasm of the cells of the body under the influence of organic or inorganic therapeutic agents that we must look for our future triumphs in the treatment of specific disease where vaccination has not been resorted to, or has failed. Of such direct action on protoplasm there are only two or three examples, but there can be little doubt that quinine and arsenic in malaria, and mercury and perhaps iodide of potassium in syphilis, act somewhat in this manner. Should it be definitely proved that anti-toxines are formed as the result of the action of certain bacteria on the tissues and fluids of the body, an anti-toxic method of treatment—as at present within our reach—could prove of little practical value, for in the cases where any definite results have been obtained very large quantities of the blood or serum from immunised animals have been used in order to obtain the results described, and it is difficult to imagine how it would be possible to obtain for our purpose sufficient of the specific anti-toxines from living animals, however vaccinated, whilst the risks to patients would be so great that such treatment would be unjustifiable. We may, however, still hope for something better, especially when in the British Institute

[1] International Journal of the Medical Sciences, July, 1892.

of Preventive Medicine men can devote their whole time and energy to the study and preparation of vaccines and antitoxines, their nature, actions and doses. Such work is too difficult, and the results at stake are too important, to be left to share with other duties the attention of any man or body of men.

There is one point of view from which we must look at these chemical products quite apart from the organisms that produce them. One of the theories as to the effect of such chemical poisons in protecting an animal against the attacks of any but the most virulent organisms or against enormous doses of less virulent organisms must, so far as our knowledge goes, be based on what may be called the acclimatisation theory, according to which various cells and tissues of the body become so accustomed to the presence of certain poisons when administered in small but gradually increasing quantities, at definite intervals, that when large doses are actually formed within the body the tissue cells are still able to react, to carry on their phagocytic functions, and thus to treat pathogenic organisms as mere saprophytes. Such a consideration as this would at present lead us to classify the methods of inoculation into at least two groups: those where the tissues have to become accustomed to the presence of a poison only, as in diphtheria and endocarditis, in both of which the poison can be developed only at the surface of the body, where fibrin or some similar substance is present but is so far removed from the action of the cells that the organism is able to grow and produce its special poison, the local tissues being directly attacked by both bacilli and poison, but the general tissues having the poison only carried to them. Tetanus might also be included in this group, though the conditions are somewhat different. Here it may be possible so to acclimatise the tissues (as also in the case of hydrophobia) that the poison which, under ordinary accidental conditions, finds its way into a wound would have practically no effect, in which case the organisms introduced at the same time would also be dealt with by the tissues. In the case of diphtheria and infective endocarditis, where an enormous quantity of poison may be formed, and where, as we know, products administered experimentally have devitalised the tissues instead of increasing their resistance, the hope of inoculation proving useful does not seem to be very bright, though it may be that the introduction of exceedingly minute doses at certain definite intervals may confer a certain degree of protection. Where, however, pathogenic organisms are able to make their way into the lymphatics and bloodvessels, the prospects of obtaining good results from inoculation are much more favourable, as, if once an animal can become accustomed to the presence of the poison, the microbe itself can have little chance with the leucocytes and the tissues.

The two processes—the anti-toxic and immunisation by specific acclimatisation—are perfectly distinct from those on which Koch's treatment of tuberculosis is said to depend for its success. If a certain quantity of a sufficiently dilute escharotic be injected under the skin slight inflammation accompanied by exudation of leucocytes, proliferation of the connective tissue cells and localised formation of new connective tissue, is set up. If, however, a first dose be followed by a second, a second by a third larger and more concentrated dose, the tissues may undergo necrotic changes, a slough is formed, and what is called reaction takes place; and the slough gradually separates from the reacting tissues in which connective tissue is formed. This is exactly what takes place when tuberculin is administered; the tuberculin alone is not sufficient to cause any serious damage to the tissues, but along with the poison that is formed by the tubercle bacilli in the areas affected, it intensifies the necrotic action associated with tubercle, especially in the immediate neighbourhood of the bacilli, and in this way the partially devitalised or dead tissues may be got rid of more rapidly by sloughing than in cases in which no treatment is attempted. Sad experience, however, has taught us that the increased dose of the poison so acts on the tissue in the zone some distance from the area of actual sloughing that in certain cases, at any rate, it becomes much more susceptible to the attacks of the tubercle bacilli, and thus the disease seems to spread more rapidly after the administration of tuberculin; and although it is possible, though certainly not yet proved or even probable, that very minute doses of tuberculin may have a salutary and perhaps a protective influence as regards the tissues, the clinical results up to the present have not been sufficiently satisfactory to encourage the hope that we have in tuberculin a substance that will exert any permanent favourable influence on the course of an attack of tuberculosis.

It is fitting that at a meeting of medical men whose aim is the advancement of science some slight attempt should be made to show that one of the greatest advances in the history of bacteriology has been initiated by members of this Association. It is only recently that in again going over the literature of anthrax I have come to a knowledge of certain facts, and although I was constantly associated for eight years with my friend and master Professor Greenfield, he never once mentioned a claim to what I now look upon as justly his due in connexion with the preventive inoculation of anthrax.

Duguid, as reported by Burdon Sanderson in 1880, had observed, in 1878, that when splenic fever or anthrax is transmitted by inoculation from cattle to small rodents, such as young guinea-pigs, and then back again to cattle, the character of the disease so transmitted is much milder than that of the original disease acquired in the ordinary way; the rodents die but the bovine animals inoculated with their blood or with the pulp of their diseased spleens recover. There seemed to be little doubt at the time these experiments were made that the question as to the attenuating effect of passing the bacillus anthracis from a cow to a guinea-pig had been settled, though from the fact that cattle appear to be much less susceptible to direct inoculation than they are to the bacillus when introduced by the alimentary tract, doubts have been expressed as to the real value of these experiments, as although the same anthrax when passed through a series of guinea-pigs appeared to have its virulence diminished, there was not sufficient proof given that the attenuating influence which appeared to exist extended to those cases where feeding experiments were conducted. These doubts, however, cannot detract from the value of the observations made, as they were, at so early a period. In view of Pasteur's success in the production of an attenuation of the microbe of fowl cholera this appeared to give promise of successful results in the production of immunity against the attacks of anthrax. In May, 1880, Greenfield, who at the Brown Institution had made careful cultivation and inoculation experiments on the anthrax bacillus, announced in "An Inquiry into the Nature, Cause and Prevention of Splenic Fever, Quarter Evil and other Diseases,"[2] that he had been able by artificial means to prepare a protective anthrax virus. After referring to Duguid's experiments and the results obtained by the direct method of inoculation, Greenfield says: "Seeing that the object of my experiments was to inoculate bovine animals with a virus modified by its transmission through the guinea-pig, it may appear that it would be desirable in order to have the full effect of such modification either to inoculate directly from the guinea-pig or from a cultivation not far removed from it. But there would be many practical advantages if it were found that having once transmitted the virus through one guinea-pig or a series of them, its modified property was subsequently maintained in the artificial cultivation. I have therefore kept this in view, and have tested the effect of successive generations of the artificially prepared poison." He further says: "It would have been a great advantage if I had been able to test side by side with these cultivations derived from the guinea-pig other cultivations derived direct from a bovine animal. But in every case cultivations from the latter have failed owing to the commencement of decomposition in the material sent to us."

Using an infusion of the hay bacillus or aqueous humour of the sheep or ox—more especially the latter—Greenfield made his cultivations in closed glass tubes about a quarter of an inch in diameter, drawn out at both ends to a fine capillary tube and sealed. Those tubes, about an inch in length and half filled with cultivating fluid, were carefully inoculated with a capillary tube containing a minute quantity of the blood, or only rubbed on the spleen of the animal which had died of anthrax, were sealed immediately after inoculation and kept at a temperature of about 35° C. After carefully describing five experiments made on cattle and sheep, in which the results were certainly most satisfactory, Greenfield says: "It must be evident to anyone who considers the matter that there are many points which must be determined by experiments of a much more extensive character than any I am able to carry out at the Brown Institution. If, as I hope, it should prove on further experiment that the earlier

[2] Vol. xvi. of the Journal of the Royal Society of England. (I mention this paper because it was published rather earlier than the note in the Proceedings of the Royal Society, and because the evidence there given as to the success of this method is far more complete and satisfactory than that contained in the latter paper.)

results are confirmed and that the inoculation of bovine animals with the bacillus anthracis, cultivated artificially after transmission through guinea-pigs or some other animal, serves to render bovine animals totally or partially insusceptible to the disease when transmitted by the usual channels, one great step will have been taken. But there will yet remain the questions: Is the mortality from inoculation by this method a high one, or do even a small percentage of animals die? What are the conditions under which inoculations may be best performed? Does age exercise an important influence in the fatality? Lastly, for how long a period is protection from attack conferred?" "To settle these points the inoculation of a large number of animals will be necessary, and their subsequent exposure to sources of contagion at favourable periods." These facts and statements, taken in conjunction with the observations published in the Proceedings of the Royal Society for June of the same year, make it evident that in his serial cultivation experiments, during which he obtained attenuation of the virus, Greenfield's object was to obtain a vaccine which, when inoculated, would induce a milder but protective attack of the disease with which he was dealing; and whatever fault may now be found with the methods used—and it must be remembered that at this period bacteriology was an almost new science, and the methods were only in process of development—he obtained the results at which he was aiming. It has been stated that his results could not be relied upon; but these statements are not based on his experiments, or on those carried on in the way that he described, but on various modified experiments. I have therefore thought it necessary to repeat a number of his experiments, following his directions as accurately as possible; and as a result, although they are not yet completed, I have found that although I may not be able to agree with all the interpretations put on the observations, the main facts themselves are unassailable, especially as regards the modification of the appearance of the organism under cultivation in the media mentioned — modifications that have been said not to exist. At the time that Greenfield was obtaining his results with cattle Toussaint was working away on young dogs and sheep, and in July, 1880, he described the results that he had obtained on these animals, and a little later he gave his method of preparing the attenuated virus with which he protected animals against the action of a virulent anthrax. In connexion with Toussaint's experiments Pasteur, than whom few men have been less rash in drawing conclusions, was satisfied that his method of preparing vaccine was valueless; but Roux, an exceedingly accurate and careful observer, and one of Pasteur's disciples, repeating the experiments, corroborated the results obtained by Toussaint; he found that his earlier experiments, published immediately after those of Greenfield, were to be relied upon, and that although the bacilli were destroyed at 55° C., the spores remained alive, and, what was more important, their virulence was attenuated.

Owing to the conditions under which scientific work must be carried on in this country, and to the comparatively slight interest that is taken in these matters by our wealthy classes generally, and owing to the restrictions that were placed upon the most necessary experiments, Greenfield was unable to test on a large scale the value of his observations, but he had laid the foundation of what was ultimately to become one of the greatest discoveries in modern medicine, and there can be little doubt that Wooldridge, in working out his admirable and epoch-making researches on protective inoculation, was following and extending these original researches carried on in the Brown Institution, where so much valuable work has from time to time been carried out. In stating this I am not detracting in the slightest degree from the brilliant work done by M. Pasteur, who, thanks to the wonderful results that he had previously obtained in other departments of research, was able to command the opportunities of carrying on his work on a most magnificent scale; and his results, published in May, 1881, may be said to be an edifice built on a triple foundation of his own work on fowl cholera, and that of Greenfield and Toussaint on anthrax; for although, as Pasteur pointed out, the earlier workers had not been able to eliminate many fallacies, theirs was the rough pioneer work which opened up a new country, cut rough and often circuitous roads, and made possible the advance of those who were to build up and elaborate the work that has since been and is still being done.

There is an old fable that when Truth was sent by the gods, owing to some mishap it fell from the clouds of Olympia to the hard, matter-of-fact world below, and was smashed into a thousand atoms. Not only had Truth been beautiful in itself, but the shattered fragments still retained so much beauty of form, colour and material that each became the desire of those amongst whom it fell. In the general scrimmage that ensued many took part, and some were successful, each bearing away in triumph his small fragment, he and his friends fondly imagining that it represented the whole beautiful image. Gentlemen, the first step towards reconstructing this image is for each one to acknowledge that his fragment is but part of a great whole; when this is done let each bring his own fragment, be it large or small, and submit it for examination and measurement, and to be fitted by himself and by others. From time to time men of deeper and wider views than ourselves, capable of fitting together not only their own fragments, but those of others that have been prepared to their hands, come forward, and the original form is being daily further and further outlined. We are now but gathering and combining the smaller fragments into larger pieces, and it may be that in this finite existence of ours we shall see the limbs or joints merely, but through the association and working together of many, all animated by the same desire, these smaller fragments will be gradually fitted together, so that even we, in our time, may gain some conception, however crude and imperfect, of the wonderful form of Truth as it left the gods.

A REPORT ON

THIRTY-SEVEN CASES OF TUBERCULOUS DISEASE OF THE HIP-JOINT,

FOR WHICH EXCISION OF THE JOINT WAS PERFORMED IN THIRTY-SIX CASES.

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(Concluded from p. 256.)

STATISTICS OF THE COMPLETED CASES.

FOR convenience of reference we have given below the statistics of these cases in a tabular form. We shall here deal with the main points more in detail.

1. *Period of healing.*—Primary union (including cases in which the tube track healed by granulation shortly after primary union of the rest of the wound) occurred in 11 out of the 17 cases. Of these, 4 remained permanently healed and had no secondary operations, and 4 others remained healed for more than a year after excision before recurrence occurred. In addition to these we may add 2 cases (T. S—— and J. A——) which also healed by primary union and remained healed for two years and one year and nine months respectively before recurrence, thus making a total of 10 cases which healed by primary union, and remained sound for a year or more. The date of first healing in the other cases was from three to fifteen months, as shown in the table. The period of final healing of course varies much according to the date of recurrence; this is given in each case in the table below.

2. *Recurrence of disease.*—In a total of 20 cases (including the 17 completed cases and 3 others which remained healed for more than a year after primary healing) recurrence of disease occurred in 16; in 9 of these further bone disease was found; in the others the bones were not further affected. In 5 cases there was only one secondary operation; in 5 cases there were two, in 3 cases three, in 2 cases four, and in 1 case five secondary operations. It will be seen by referring to the table that those cases which had most secondary operations performed were as a rule the cases in which further bone disease occurred.

3. *Real shortening.*—In the 17 complicated cases the actual shortening was between 1 and 2 in. in 9 cases, 2 in. in 5 cases, 2¼ in. in 1 case, 3 in. in 1 case, and 3½ in. in 1 case.

The average shortening is 1·85 in. In the 2 cases which have 3 in. shortening part of the trochanter was removed.

4. *Apparent shortening.*—This, as seen in the table, was as a rule less than the actual shortening, the difference being due to slight abduction of the limb, or to some compensatory curve of the spine. The average apparent shortening is 1·3 in.

5. *Condition of joint.*—In 2 cases there was immobility of the joint, in 4 cases there was scarcely any mobility, in the remaining 11 cases there was more or less free mobility.

STATISTICS SHOWING THE EFFECTS OF FLUSHING AND DRAINAGE OF THE JOINT.

We shall here endeavour to show what bearing these points have on the time of primary and final healing. Cases admitted with sinuses are not included.

1. *Flushing.*—The treatment was adopted in twelve excisions, Mr. Barker's flushing curette being as a rule the apparatus used. In these, primary union occurred in 7 cases. One case died from shock after the operation. The remaining 4 cases were healed in three and a half, four and a half, twelve, and six and a half months respectively. Four of the flushed cases had no recurrence of disease up to the time when last seen; one of the 4 cases is that which died of diphtheria; 3 other cases remained sound for thirteen, fifteen, and twenty months respectively before recurrence; the remaining 4 cases are as yet too recent to consider in regard to final healing. The effect of flushing is therefore favourable as regards the primary healing of the wound, 7 cases out of 12 having healed by primary union, whereas only 11 out of 25 healed by first intention when flushing was not resorted to. Recurrence of disease appears to occur frequently whatever method of treatment be adopted.

2. *Drainage.*—In order to consider the effect of drainage on the primary healing of the wound we may divide the cases into (*a*) those which were not drained, (*b*) those which were drained for from eighteen to forty-eight hours, (*c*) those which were drained for longer periods. As before, cases with sinuses are not included. Seven cases were not drained; of these, 5 healed by primary union. Eight cases were drained for from eighteen to forty-eight hours; of these, 6 healed by primary union. Thirteen cases were drained for periods varying from four days to several weeks; of these, 7 healed by primary union, with granulation of the tube track without suppuration. In short, healing by primary union occurred in 71·4 per cent. of cases not drained; in 75 per cent. of cases drained up to forty-eight hours; while 53 per cent. of cases drained for longer periods healed nearly by primary union. Cases therefore appear to heal almost equally well whether drained or not up to forty-eight hours, but there is a disadvantage in keeping up drainage for a longer period.

STATISTICS OF CASES WHICH HEALED BY PRIMARY UNION.

Of the 18 cases which healed by primary union, including those cases in which the tube track healed shortly afterwards by granulation without suppuration, in a clinical sense, 4 remained sound permanently and had no secondary operations; these cases were seen last two years and five months, two years, one year and eleven months, and twelve months respectively after excision. One other case remained sound up to the time it was last seen, but this was too early for the possibility of recurrence to be excluded. Six more cases remained sound for periods between one and two years. One case died early from an intercurrent affection. In the 12 cases in which recurrence took place there was further bone disease in only 5 cases. The table of these cases shows the date of recurrence after primary healing, the date of final healing, reckoned from the date of excision, and the number of secondary

TABLE OF CASES WHICH HEALED BY PRIMARY UNION.

—	Date of recurrence, reckoned from healing.	Date of final healing.	Number of secondary operations.	Drained or not.	Flushed or not.	Duration of disease before operation.
L. A.	3 weeks	13 weeks	1	0	0	1 year and 4 months
L. A.	0	—	0	0	0	1 year
G. P.	0	—	0	Drained 4 weeks	0	5 months
W. R.	0	—	0	Drained 24 hours	Flushed	2 years
E. T.	0	—	0	Drained 48 hours	Flushed	5 years
F. S.	0	—	0	Drained 36 hours	Flushed	2 years and 9 months
G. C.	0	—	0	Drained 48 hours	Flushed	5 months
E. M.	6 weeks	9 months	2	Drained 5 weeks	0	10 months
T. M.	2 months*	1 year and 11 months	3	0	0	9 months
C. K.	1 year and 6 months	1 year and 9 months	1	Drained 6½ weeks	0	2 years
C. R.	1 year and 10 months	3 years and 7 months	4	Drained	0	1 year
A. P.	1 year and 2 months*	1 year and 8 months	4	Drained	0	1 year
J. A.	1 year and 8 months*	—	1	Drained 18 hours	Flushed	2 years
T. S.	1 year and 11 months*	Not quite healed	2	0	0	1 year and 4 months
T. B.	6 months*	8 months	2	0	0	8 years
F. W.	8 months	Not quite healed	1	Drained 20 hours	Flushed	13 months
E. S.	1 year and 1 month	1 year and 3 months	1	Drained 9 days	Flushed	4 years
F. B.	4 weeks	—	1	Drained 4 weeks	0	1 year and 6 months

* Recurrence of bone disease.

TABLE OF COMPLETED CASES.

—	Duration of disease before operation.		Date of primary healing.		Date of recurrence.*		Date of final healing.		Number of secondary operations.	Real shortening.	Apparent shortening.	Condition of joint.	Length of time without splint.		Time when last seen: Since excision.		Time when last seen: Since healing.	
	Yrs.	Mths.	Mths.	Wks.	Yrs.	Mths.	Yrs.	Mths.		Ins.	Ins.		Yrs.	Mths.	Yrs.	Mths.	Yrs.	Mths.
C. R.	1	—	—	8	1	10	3	7	4	2	¼	Free mobility	—	6	5	3	1	11
R. B.	1	3	3	—	—	1	—	5	1	2	—	Free mobility	4	—	5	2	4	9
E. M.	—	10	—	7	6 wks.		—	9	2	2	1½	Firm union	2	6	4	4	3	7
T. M.	—	9	—	3	—	2†	1	11	3	1	1	Free mobility	—	8	3	4	1	5
A. P.	1	—	—	6	1	2†	1	8	4	1¾	1½	Free mobility	—	11	3	4	1	8
W. B.	2	—	15	—	—	4†	—	15	2	2½	2¾	Firm union	—	9	2	6	1	3
C. K.	2	—	—	7	1	6	1	9	1	1½	1	Firm union	1	—	2	6	—	9
L. A.	1	—	—	8	None		3 wks.		0	2	—	Free mobility	—	(?)	2	5	2	4
A. C.	2	6	8	—	—	3†	—	8	3	1½	1½	Firm union	—	9	2	5	1	9
L. A.	1	4	—	3	3 wks.		13 wks.		1	1¾	—	Free mobility	—	(?)	2	1	1	10
G. P.	—	5	—	5	None		5 wks.		0	1¾	1½	Firm union	—	11	2	—	1	11
C. N.	6 (?)	—	13	—	—	13†	—	3	5	3½	2	Free mobility	—	8	1	11	—	10
N. E.	1	6	—	14	—	6†	—	10	2	1	½	Free mobility	—	3	1	10	1	—
W. R.	2	—	—	4	None		4 wks.		0	1½	—	Firm union	—	4	1	10	1	9
E. S.	4	—	—	4	—	13	1	3	1	3	2½	Free mobility	—	8	1	9	—	6
M. B.	3	—	6	—	—	2	—	6	1	2	1½	Free mobility	—	3	1	8	1	—
F. S.	2	9	—	3	None		3 wks.		0	1½	1½	Mobility	1 week		1	—	—	11

* Date of recurrence is calculated from period of primary healing, except where there was recurrence before primary healing.
† Recurrence in bone.

operations. The final results in those cases which are completed will be found by referring to the table of completed cases. The following conclusions may be drawn:—1. The primary healing must have been fairly complete and by no means limited to the superficial tissues in the majority of the cases, for the hips appeared to be quite sound and the scars continued healthy for many months even in the cases where disease subsequently recurred. 2. That it is desirable to secure primary union if possible, not only in order to prevent the risks of septic suppuration, but also with a view to the better subsequent progress of the case. Fifteen of the cases are sufficiently advanced to be considered in regard to recurrence of the disease; 5, or one-third of them, had further disease of bone. With these may be contrasted 14 cases which did not heal by first intention; 7, or half of them, had further disease of bone.

COMPARATIVE RESULTS OF EARLY AND LATE OPERATIONS.

In order to elucidate this point we have studied 20 cases which were operated on more than a year ago, more recent cases being excluded; cases which died and those admitted with sinuses are also excluded. The duration of the disease before operation is stated in each case in the two tables, the one of cases which healed by primary union, the other of completed cases. By referring to the former table it will be seen that the duration has little if any influence on the primary healing, as the list includes cases of various durations, from five months up to five years. Also, by referring to both tables, it is difficult to show that the duration of disease has much bearing on the final results. It should, however, be borne in mind that whether the case had progressed slowly or rapidly the same indications for operation were observed—viz., the presence of a superficial abscess and extensive disease of the joint.

We believe that the cases recorded and analysed above afford an average sample of the results which are obtainable by the mode of treatment which was employed. The immediate mortality, however, we believe to be higher than it ought to be, and higher too than it would be found to be if a larger number of cases were analysed. The results, if considered from all points of view, appear to us to be much less encouraging than the advocates of the methods followed were led to anticipate would be the case. But, whilst making this admission, we feel that no other plan of treatment can offer better results in similar cases—similar not only in regard to the stage to which the disease had progressed, but similar also in regard to the social position of the patients.

THE ONTOGENY AND PHYLOGENY OF THE BREAST.

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SECTION I.—INTRODUCTORY.

THE mammæ are glandular organs destined to secrete milk for the nourishment of the young immediately after birth. Correlated with these important organs are other structural peculiarities, so that morphologists classify all animals having them in the same order under the name "mammalia." All such animals are viviparous; their young are brought forth naked, without any fœtal envelopes or stored-up nourishment. Hence they usually depend for very existence upon the ability of the mother to nourish and protect them.

The origin[1] of the mammæ is intimately connected with this helpless condition of the young. Both sexes of human beings, like all other mammalian animals, possess mammæ, but in males they are usually small and functionless. It is only in females that they develop into true milk-secreting organs. In this their perfect state, the mammæ must therefore be regarded as appertaining essentially to the female organisation. It is, however, certain that it was not always so. We must remember that the earliest and most primitive sexual relation was hermaphroditism, and that the separation of the sexes as they at present exist was only secondarily effected, by division of labour, in the gradual progress of evolution. Hence in every male we still find rudiments of female reproductive structures, and *vice versâ*. But it is chiefly in consequence of sexual selection that male animals differ so widely from their females, and that they tend to vary anatomically and pathologically in a different manner. Thus were developed the so-called "secondary sexual characters"; that is, those differences between individuals of opposite sexes which appear, not in the sexual organs themselves, but in other parts of the body, such as the beard of man and the breast of woman. It is certainly very remarkable that in every female all the secondary male characters, and in every male all the secondary female characters, exist in a latent state, ready to be evolved under certain conditions. Thus in men and male mammals the breasts occasionally attain a large size and secrete milk. To account for the existence of male mammæ Darwin[2] suggests that long after the progenitors of the whole mammalian order had ceased to be androgynous both sexes yielded milk, and that the males aided the females in suckling their offspring, but that afterwards, from some cause (as from the production of a smaller number of young), the males ceased to give this aid; disuse of the organs during maturity would lead to their being inactive, and this state would be transmitted to the males at the corresponding age. Curiously enough, the male mammæ are much less completely aborted than are the other female reproductive structures rudimentary in man. Having no use, the persistence of such structures is remarkable.

SECTION II.—ONTOGENY OF THE GLAND.

The human breasts (mammæ), like those of all other mammalia, are generally regarded as greatly enlarged and modified cutaneous sebaceous glands. The observations of Champneys[3] on the development of mammary functions by the axillary sebaceous glands of women during lactation, as well as those of Duval[4] on the nature of the secretion of the acinous glands of the areola under like conditions, show that the difference between sebum and milk is only one of degree. In all this it appears to me there is nothing to countenance the extraordinary view recently advanced, that in human beings highly specialised organs like mammæ and teeth, which have taken immense ages to attain their present degrees of perfection, can be suddenly evolved as "sports" from ordinary sebaceous glands and cutaneous epithelial processes respectively. I must protest against this assumption, which is a contravention of the fundamental principle of heredity; and as I have elsewhere shown,[5] the evidence on which it is based is altogether delusive. The question has arisen whether the

[1] Mammalian animals are among the most highly organised and latest evolved. It was formerly thought that they came into existence at the commencement of the tertiary period; but it is now known that the leading types, as at present existing, were even then differentiated; and mammalian remains have since been found throughout almost the whole of the secondary or mesozoic rocks. As at present known mammals are completely isolated from all other groups of animals. Huxley believes we must go straight down to the amphibia for their nearest progenitors. According to Darwin (Descent of Man, 1879, p. 165) the descent of man from the lowest mammalia is through the ancient Monotremata to the ancient Marsupials, and from these to the early progenitors of the placental mammals. Thence to the Lemuridæ and through these to the Simiadæ. The latter then branched off into two great stems: from the catarhine or old-world division, of which—after they had diverged from the new-world division—man, at a late period, proceeded. The time at which this took place is still a matter of controversy. It is, however, much more remote than historians and chronologists have led us to believe. The oldest of such records prove that civilised communities and large states flourished in Egypt and some parts of Asia, prior to 4000 B.C. In these countries, therefore, man must have had far higher antiquity than this. In Europe his presence can be traced in this way only to about 2000 to 3000 B.C. Geologists have, however, proved his existence at much more remote periods. Geikie says (Prehistoric Europe, p. 2 et seq.): "We know now that many long centuries before the advent of the Romans our islands were occupied by a people whose knives and swords were fashioned of bronze; we know further that this people was preceded by a race or races ignorant of the use of metals, who lived during several considerable changes of climate and oscillations of the sea level; and we have also learned that at a still more remote period our country and the neighbouring parts of Europe were tenanted by tribes of yet ruder barbarians, during whose occupancy several extensive geological mutations occurred." Prestwich's opinion on the subject is (Antiquity of Man, vol. ii. 1888, p. 534) given thus: "If we can be allowed to form a rough approximate estimate—on data as yet very insufficient and subject to correction—we may give to Paleolithic man no greater antiquity than perhaps about 20,000 to 30,000 years; while should he be restricted to the so-called post-glacial period, this antiquity need not go further back than from 10,000 to 15,000 years before the time of neolithic man. The extreme antiquity of even 80,000 years (not to speak of 150,000 to 200,000 years) assigned to man, seems to me based on very inappreciable evidence."

[2] Descent of Man, 1879, p. 163.

[3] The Medical and Chirurgical Transactions, vol. lxix., 1886, p. 419.

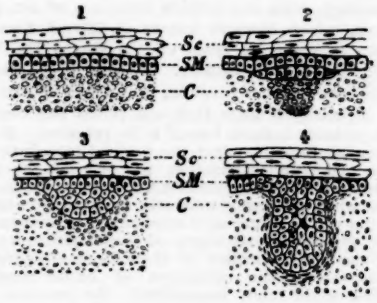
[4] Du Mammelon et de son Auréole. Thèse de Paris, 1851, p. 43.

[5] Polymastism, with special reference to "Mammæ Erraticæ" and the Development of Neoplasms from Supernumerary Mammary Structures. Journal of Anatomy and Physiology, Jan. 1891, vol. xxv., p. 225.

mamma is the homologue of a single sebaceous gland or of an aggregation of such glands. It appears to me that here we have but one reliable guide—viz., the ontogeny of the organ. Inasmuch as all observers are now agreed that the mamma is developed from but a single epithelial ingrowth, and that the form ultimately attained—in which the gland discharges by numerous ducts on the summit of the nipple—is due to secondary modification (kenogenesis), I am decidedly of the opinion that we must regard it as the homologue of but a single specialised sebaceous gland.

Like all other glands opening on the free surface of the body, the mamma is developed from the deep cells of the epidermis by a process of continuously progressive ingrowing gemmation, with differentiation. (Fig. 1.) The process begins at about

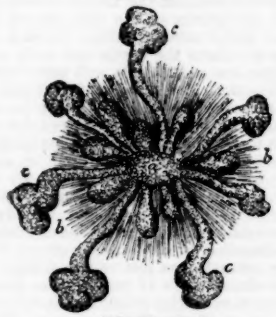
FIG. 1.



(After Weidersheim.)

the third or fourth month of intra-uterine life by certain of the columnar cells of the Malpighian stratum in the site of the future organ, proliferating more rapidly than those adjacent. (*SM.*) A solid knob-shaped mass of proliferous epithelial cells ingrowing into the subjacent dermis is the result (primary epithelial deposit). About this knob the small, round-celled, embryonic parablastic tissue aggregates and forms a zone from which the nipple is subsequently developed (nipple zone). A few weeks later, by repetition of the initial process, secondary buds arise from the primary ingrowth and likewise grow into the adjacent structures as solid cellular plugs (secondary epithelial deposit). These form the first rudiments of the ducts and lobes, and it is only subsequently that they become excavated. At this stage the nascent gland

FIG. 2.



(After Langer.)

consists of a single branching system of proliferous epithelial cells ingrowing into the surrounding tissues. In the dermis, beneath the nipple zone, there now becomes differentiated a fresh zone of embryonic parablastic tissue, from which the stroma of the gland is developed (stroma zone). In the next stage the primary epithelial ingrowth undergoes retrogressive metamorphosis, often with a certain amount of cornification, and these changes eventually lead to its complete disappearance. At the same time the secondary epithelial ingrowths undergo further development: they become hollowed out and give off numerous club-shaped buds at their extremities—the rudimentary lobules. In connexion with these small aggregations of irregularly shaped epithelial cells subsequently appear, which constitute the matrix for the development of the true secreting glandular parenchyma—the acini. Towards the end of intra-uterine life each lobe has developed a single external opening or duct.

At birth the organ consists of from fifteen to twenty lobes, the excretory ducts of which are excavated and lined with a single layer of small cubical cells, the rest of the organ being still solid. (Fig. 2.) "In newly born children," says Langer,[6] "we rarely find anything more than the principal ducts, with some indications of ramification in the form of two or three club-shaped processes; and even if these be somewhat more developed, the terminal vesicles are always absent, even in those cases where fluid is secreted." This description has hitherto been generally accepted, but, according to De Sinéty,[7] it is true only for stillborn children and for those who have died shortly after birth. He says that during the first ten days of extra-uterine life considerable formative changes take place in the gland, so that if it be examined at the end of this period some acinous tissue will usually be found resembling that of the adult female mamma during lactation and capable under certain conditions of secreting milk. These changes occur in both sexes and Variot[8] describes them as attaining their maximum between the eighth and fifteenth days after birth. The male mammæ being functionally inactive continue in this imperfectly developed condition throughout life, although they generally manifest some temporary disturbance at puberty. In females remarkable structural changes set in at this period, but it is not until after conception that the organ attains its full development. Before puberty the female breast consists chiefly of excretory ducts, but as this period approaches the true secreting structure arises by the abundant new formation of glandular acini. This wonderful post-embryonic transformation is brought about by progressive gemmation, in the same way as the initial embryonic development, of which it is but a superinduced repetition. This demonstrates that between embryonic and post-embryonic developmental processes there are no differences other than those of degree. In the words of Paget, "it is one and the same power which, being maintained continuously from the germ to the latest period of life, determines all organic formation." The commencement of this mammary rejuvenescence usually precedes the first catamenial period, and at every subsequent period more or less temporary sympathetic reaction is excited. But the most important changes are those induced by the stimulus of conception, which converts the previously functionless structure into an active milk-secreting gland. During this period the acini attain their highest degree of structural perfection. This, however, is but a transitory condition which ceases after a time, when the stimulus is withdrawn, and is again renewed on its repetition. During the intervals between these periods the breast remains in a functionless resting state.

These and many other similar facts show that normal tissues may remain quiescent for long periods, and then suddenly take on new phases of growth and development. In this way, then, the whole organ is gradually evolved from the columnar cells of the epidermis. A gland in its simplest form is merely a modification of a single epithelial cell; and according to Goodsir[9] each acinus of the more complex glands consists at first of but a single epithelial cell. It seems not improbable that the initial germ of the mammary gland itself may be of this simple nature. This account of the ontogeny of the breast is chiefly after Rein, Bowlby, Hüss, Kölliker, and Langer. Creighton[10] has given a very different description of the process. According to him the development of the mammary acini is step for step the same as that of the fat lobules, and the ducts arise from the same parablastic matrix; therefore the homologue of the mamma is not a cutaneous gland, but a "fat body." These heterodox views have not been confirmed by subsequent observers—e.g., Rein and Bowlby.

SECTION III.—ONTOGENY AND PHYLOGENY OF THE NIPPLE.

The nipples (*mammillæ*)—papilla-like outgrowths adapted for being sucked—do not develop until after the glandular

[6] Stricker's Histology, Sydenham Society's Transactions, vol. ii., p. 281, 1873.

[7] Recherches sur la Mammelle des Enfants Nouveau-nés, Archives de Physiologie, p. 293, 1875.

[8] Gazette Médicale de Paris, Oct. 4th, 1890: Remarques sur la Sécretion Lactée chez les Nouveau-nés.

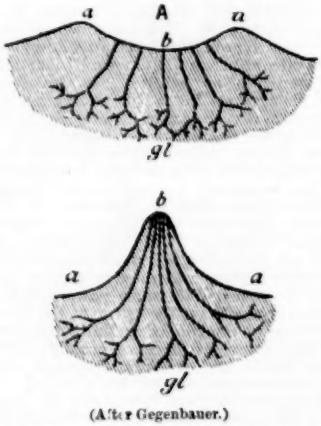
[9] Anatomical Memoirs, vol. ii., p. 422, 1868.

[10] Journal of Anatomy, vol. xi., p. 1; also Physiology and Pathology of the Breast, p. 83, 1878.

elements have been formed and sometimes they never arise. These ontogenetical phenomena are of great interest from the standpoint of phylogeny, because the lowest mammals—the monotremata—have no nipples. In them the milk simply emerges by numerous ducts through a sieve-like perforated patch of the abdominal skin, from which the young animals have to lick it. These ducts open either on a flat surface (ornithorhynchus) or into a pouch of the integument (echidna). From this it may be inferred—inasmuch as the ontogeny of organs generally represents and accords with their phylogeny—that our mammalian progenitors had no nipples, though they had the glands.

The marsupials differ from the monotremata in possessing nipples. According to Darwin[11] these structures were first acquired by marsupials after they had diverged from and risen above the monotremata, and were by them transmitted to the placental mammals. In human beings at an early stage of development the site where the nipple will subsequently appear is marked by a depression, towards the bottom of which the ducts of the gland converge (Fig. 3, *a*). Owing

FIG. 3



(After Gegenbauer.)

to arrest of development at an early stage this rudimentary state may persist throughout life and such malformations are met with both in the normally placed and in the supernumerary nipples. They remind us of the mammary pouch of Echidna. The further development of the nipple is effected by the area of skin, perforated by the ducts, being raised up into the form of a papilla, above the level of the rest of the integument (Fig. 3, *b*). When the whole of the cutaneous area perforated by the ducts of the nascent gland is not integrated with the developing nipple, then such of the ducts as are left behind, instead of opening on the summit of the nipple, do so on the areola, where they are to be found chiefly about the base of the nipple. Thus the so-called glands of Montgomery (glandulæ lactiferæ aberrantes) arise. From the frequency of these and other somewhat similar malformations we may conclude that the mammæ, like the lacrymal and salivary glands, are normally very imperfectly integrated organs. At birth the nipples are fairly prominent in both sexes. Their ducts generally contain disintegrating epithelial cells which sometimes deliquesce into a milk-like fluid.

Preston.

[11] Descent of Man, p. 102, 1879.

VICTORIA DENTAL HOSPITAL, MANCHESTER.—On the 27th ult. the distribution of prizes in connexion with this hospital took place at the Grand Hotel. The report for the eighth year of the institution showed that the present year seemed likely to prove an important one in the history of both the hospital and the dental school, inasmuch as the institution would shortly be established in the new and large premises, but which would only be temporarily utilised pending the building of the new hospital. The committee had recently drawn up a graduated scheme of instruction in operative dentistry which they believed to be more thorough and systematic than any at present in use at other dental hospitals in the kingdom.

ON MISSED ABORTION:

WITH NOTES OF THREE TYPICAL CASES.

BY ARTHUR H. N. LEWERS, M.D., M.R.C.P. LOND.,
OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

CASES of missed abortion are by no means uncommon; they are easily recognised if the possibility of the existence of the condition is kept in mind and proficiency has been acquired in the bimanual method of examination, especially so far as concerns the determination of the size of the uterus. Yet comparatively little prominence has been given to the subject by the majority of writers on gynæcology, with the notable exception of Dr. Matthews Duncan, whose classical lecture on Missed Abortion first led me to recognise cases of the kind. The history is usually of great importance. In most cases the patient, having been previously regular, misses one or more periods, and, especially if more than one period has been missed, most probably believes herself to be pregnant. If it should happen at this time that the medical attendant is called on to make an examination, the size of the uterus as determined by him may be of much value in making the diagnosis when other symptoms arise later on. We have, then, to begin with, an interval of amenorrhœa accompanied by the other symptoms and signs of early pregnancy. Generally the first indication of there being anything unusual in the case is the occurrence of hæmorrhage, usually at first slight and intermittent, the intervals between the losses being days or weeks; or it may be that there is a constant, blood-stained discharge, the proportion of blood varying from time to time. It is usually on account of this hæmorrhage that the patient seeks advice. It is obvious how valuable a previous examination of the patient may now prove, if a month or more has elapsed since the previous examination; for it may be found that the size of the uterus has remained stationary or has even somewhat diminished. It often happens, however, that we have no previous examination to guide us, and then it is best to compare the size of the uterus when the case is first seen with the size it should have been had the pregnancy been a normal one, reckoning from the beginning of the interval of amenorrhœa. The treatment depends on the amount or persistence of the hæmorrhage. In some cases bleeding is inconsiderable till pains come on leading to the spontaneous expulsion of the ovum; the first case recorded below is an example of this class. In other cases bleeding is often rather free from time to time, and may be continued over a long period without the uterus showing any tendency to discharge its contents. In the second case described bleeding had lasted three months. In such cases the right treatment is to dilate the cervix and clear out the uterus. Hegar's dilators are particularly well suited for effecting the necessary dilatation, for the cervix is soft and readily dilates in a few minutes, without laceration, to the size of No. 20. Rapid dilatation is also to be preferred for another reason. The slightest disturbance of the contents of the uterus (such as is unavoidable when either a tent or one of Hegar's bougies is passed beyond the internal os) will often set up very free hæmorrhage. An instance of this is recorded in Dr. Matthews Duncan's lecture already referred to: "On the introduction of the tent, hæmorrhage began suddenly and proceeded to an alarming extent, two pints being the quantity estimated as lost within fifteen minutes," &c. Here, as in ordinary cases of post-partum hæmorrhage, it is to tonic contraction of the uterus we must look for the permanent cessation of the hæmorrhage. This contraction cannot occur till after the removal of the ovum; hence the advantage of that method of dilatation which renders the ovum accessible in a very few minutes. After the uterus has been emptied I usually swab out the endometrium with pure tincture of iodine, and then wash out the uterus with a hot douche of iodine water (one or two drachms of the tincture of iodine to a pint of hot water). Subsequently the patient has vaginal douches of iodine water for a week, and I am in the habit of ordering some preparation of ergot to be taken for two weeks after the operation. Cases treated in this way do exceedingly well. The following notes refer to three typical cases of missed abortion recently under my care.

CASE 1.—Mrs. H——, multipara, was seen on Oct. 2nd,

1891, desiring to know if she was pregnant. Her last confinement occurred on June 15th, 1890, and she was ill for some three or four months afterwards with phlegmasia dolens. She had not menstruated since the first week of July, 1891. On examination the size of the uterus indicated that she was a little more than three months pregnant. I saw her again on Jan. 4th, 1892, owing to there having been some slight hæmorrhage. *Although it was almost exactly three months since the previous examination, the uterus was little, if at all, larger than it had been then.* As the bleeding had only been slight, she was advised merely to keep quiet and send again if necessary. On Jan. 16th I was sent for to see her about 10.30 A.M., as pain and bleeding had come on during the night. On examination the os was found to be a good deal dilated, and the ovum projecting through. As there was no bleeding at the time, a hot vaginal douche of iodine water was given and the vagina packed with carbolised gauze. At 6 P.M. the gauze was removed and almost the whole ovum was found in the vagina. The fœtus was the size corresponding to a pregnancy of three months and a half. It was macerated, but not in the least putrid. The patient's subsequent progress was quite satisfactory.

CASE 2.—Mrs. S——, a multipara aged forty-one, was seen in consultation on Jan. 15th, 1892. The history was that she had been losing blood nearly every day for the previous three months. Before that she had "seen nothing" for three months and believed herself to be three months pregnant. On examination the uterus was about the size corresponding to three months' pregnancy. The os uteri was somewhat patulous and blood was coming from it. As the patient was markedly anæmic, rapid dilatation of the cervix was recommended and agreed upon. Accordingly on Jan. 17th the cervix was rapidly dilated to the size of No. 20 (Hegar). Smart hæmorrhage occurred directly the first bougie was passed. When the finger was passed into the uterus a fleshy, firm mass was felt attached above, but lying loose at its lower part, and, as it were, flapping about in the relaxed uterus. It was removed partly with the finger and partly with polypus forceps. Bleeding was stopped by washing out the uterus with hot iodine water and by mopping the endometrium with pure tincture of iodine. The mass removed had a flattened, ovoid shape. On section it was found to have a central cavity lined by smooth membrane, but there was no trace of a fœtus. The wall of the cavity was composed of a firm placenta-like tissue, and was from a quarter to half an inch thick. The patient made an uninterrupted recovery. It will be seen that on Jan. 15th the uterus should have been the size corresponding to six months' pregnancy, but it was, in fact, only the size of the pregnant uterus at the end of the third month.

CASE 3.—Mrs. B——, aged thirty-eight, a multipara, was seen on Jan. 26th, 1892, with the following history. The last confinement had occurred about three years previously. She had been regular up to the middle of September, 1891. She did not menstruate in October, but during November a slight "show" of blood, lasting only a few hours, was seen on two or three occasions. Bleeding came on again about Jan. 5th, and had continued daily till Jan. 26th, clots being passed on several occasions, but she had had no labour pains. On examination the uterus was found to be rather smaller than the pregnant uterus at the end of the third month, and it had the usual characters of the pregnant uterus at that time. The patient, however, did not believe herself to be pregnant. A diagnosis of missed abortion (or mole) was made. Had the pregnancy been a normal one the uterus should have been nearly up to the level of the umbilicus, but nothing of it could, in fact, be felt by palpation of the abdomen alone. She had been taking a mixture containing ergot for a few days before I saw her. The cervix was rapidly dilated on Jan. 27th and the ovum removed, the various procedures being the same as those adopted in Case 2. In this case, however, there was a fœtus of about ten weeks' development; it was macerated, but not putrid. The patient subsequently did well.

Wimpole-street, W.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The following candidates passed the examination of proficiency in Psychological Medicine at Bethlem Hospital on July 7th and were awarded the certificate:—Frank Belben, E. Milliken Goldie, W. A. Haslam, R. J. Hutchinson, Robert H. Lloyd, J. H. Sprout and W. F. Umney. Dr. George M. Robertson obtained the medal and prize of ten guineas for the best essay, and Drs. Nathan Raw and George R. Wilson were bracketed equal for the Gaskell Prize.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

UNUSUAL EFFECTS FROM THE USE OF ATROPINE AND HOMATROPINE EYE-DROPS IN INFANTS.

BY GEORGE CARPENTER, M.D. LOND., M.R.C.P.,
SENIOR PHYSICIAN TO OUT-PATIENTS TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

THAT children bear belladonna well and much better than adults is an established fact, and that they can absorb large doses of the drug without physiological reaction is sufficiently recognised. Like everything else, however, there is a *but* attached to the above statements, and as the result of my clinical observations that "but" is as follows. For some years now it has been my practice to make free use of the ophthalmoscope for diagnostic and other purposes. The combination of a pin-point pupil, a roving eye, a screaming infant and a large out-patient clinique not being conducive to rapid ophthalmoscopical examinations, I have been frequently compelled to make use of atropine or homatropine to facilitate matters. It is quite agreed that dilatation of the pupils is one of the most characteristic symptoms of belladonna. Ringer says he has often given to children two or three years old as much as ten minims of the tincture every hour, and this quantity usually produces no effect, neither dilating the pupil nor making the throat dry. The only symptom he has ever noticed from these large doses is dilatation of the pupil. With these remarks I cordially agree.

As the result of my observations on young infants I find: 1. The pupil not infrequently in infants[1] remains for a long time undilated, sometimes for hours. The reaction is often tardy, and then the pupil may not dilate to its full extent. This is quite apart from iritis, iritic adhesions, or what not. 2. Physiological symptoms in infants not seldom occur; whether from absorption by the ocular conjunctiva or passage down the lacrymal duct and so on, I am not prepared to state—possibly both causes are in operation.

In support of these statements I give the following instances as examples, but I have met with more than these cases.

CASE 1.—T. M——, aged three months, a congenital syphilitic suffering from double congenital cataract. When atropine drops were put in his eyes he soon afterwards flushed. His mother said the features became swollen, the breathing seemed to be stopped and he remained in a distressed condition for the rest of the day. The pupils did not dilate at all satisfactorily.

CASE 2.—H. S——, aged two months, a congenital syphilitic affected with rickets, attended on March 28th, 1889. On June 3rd he had two applications of atropine to the eyes; the pupils did not dilate. He developed a bright-red flush and gaped. On June 17th several applications of atropine were made to the eyes, but the pupils refused to dilate to more than half their extent. The child became considerably flushed both as to his eyes, face and chest. The mouth, though moist, was drier than usual. His mother said that he slept very heavily for about an hour. There is a note on July 1st to the effect that the pupils were much dilated for three days and did not become so until two days after the application of the drops.

CASE 3.—A. H——, aged seven months, a congenital syphilitic; proptosis dating from birth. The nystagmus was chiefly to the right; there were no fundal changes and no iritis. The pupils took a very long time to dilate at all, and then they were not large.

CASE 4.—M. A. M——, aged four months, a congenital syphilitic. Homatropine drops were used in order to examine the fundi. Shortly afterwards the child became flushed and drowsy. There were no changes in the fundi or traces of old iritis.

Exception may be taken to my first conclusion on the ground that the cases I quote were syphilitic; *ergo*, iritis or iritic adhesions were in action. My reply to that is: Putting aside the rarity of iritis in infantile congenital syphilitics in my experience, from systematic observation in a large number of such cases, they presented neither iritis

[1] I have not noticed these effects in those over one year of age.

nor iritic adhesions to focal or ophthalmoscopical examination. Moreover, I think that assumption is quite out of court, for I have noticed it in others not syphilitic. As regards my second, a too liberal allowance of drops may be suggested. Putting aside the fact that the phenomena narrated soon supervened they had no larger quantity—and possibly less from the difficulties attendant—than older children who show no such symptoms. The atropine drops contained 1 per cent. or four grains to the ounce; the homatropine drops also contained 1 per cent. or four grains to the ounce.

St. Ermin's Mansions, S.W.

PNEUMONIA SUCCESSFULLY TREATED BY BRIN'S OXYGEN.

BY ROBERT WATERING BATEMAN, M.R.C.S., L.S.A.

I SEND the following note for publication in THE LANCET, as I believe I am right in saying that this case is among the first treated by Brin's oxygen, as suggested and carried out by Dr. Lauder Brunton in the case of a clergyman in London.

Mrs. W——, aged sixty-three. I was called in whilst on my rounds on Jan. 31st of the present year to see this lady, and found her suffering from the prevailing epidemic (influenza), with a temperature of 103°. After administering quinine the temperature came down, and all the influenza symptoms were subsiding until Feb. 6th, when pneumonia of the left base appeared, the temperature going up again to 102° and the breathing to 36. Consolidation appeared next at the right apex behind; and, the patient becoming in a very dangerous state, I called Dr. Image of Bury St. Edmunds in consultation, and he advised Brin's oxygen. On administering the oxygen on the following day it was remarkable how the cyanosis disappeared after five minutes' inhalation. The inhalation was kept up for ten minutes the first time and given for a longer period subsequently. After that the oxygen was given twice daily, twenty minutes' inhalation at a time, until March 25th. The effect of the oxygen was very marked: after one administration, when at her worst, the patient remarked that it made her feel quite hungry. It always removed the cyanosis, refreshed her, and kept her going. The apex of the right lung commenced to clear first and then the left base, until March 5th, when they were quite well. The administration of the oxygen was continued afterwards, as the convalescence was extremely slow, and it always did her good. There is one thing which ought to be well borne in mind—viz., that inflammations following epidemic influenza are of a very ataxic character and require free stimulation; for drugs, ether, ammonia and senega are the most useful, hyoscyamus when the cough is very troublesome. A good jacket poultice wrapped round the aching inflamed lung is the best local application, and it is best to put the water in the basin first and then add the linseed, stirring the while to make the poultice. The nurses I had from London last winter almost invariably made them in the opposite manner at first, making a lumpy poultice; whilst the other way, putting the hot water in first and then adding the linseed, makes the poultice of an even consistence. There is another matter to be noticed in the pneumonia of influenza—viz., the erratic character of the inflammation. Commencing in one part—say, the base of one lung—it jumps, so to speak, right over to the other lung, and attacks perhaps the apex. There is no doubt that the influenza germ poisons the lungs, and it being erratic in its general behaviour may perhaps explain its attacking different portions of the lungs. In giving the gas it is best, when the valve has been turned on, to allow it to stream into the mouth direct, and not fill the bag which is in connexion with the tubes. It is a good thing to paint the chest with iodine liniment when the poultices are left off.

Wickhambrook, Newmarket.

A CASE OF INFANTILE LACTATION.

BY J. HILTON THOMPSON, M.D. VICT.,
LATE SENIOR RESIDENT MEDICAL OFFICER IN THE CHILDREN'S HOSPITAL, PENDLEBURY.

THE following case is of interest if only on account of its rarity. A healthy, well-developed male child, born at full term, showed about fourteen days after birth well-marked swelling of the mammary glands. The skin over the glands was congested; on pressure a thin, yellowish, milky fluid escaped drop by drop from the nipples. About two days after the condition was noticed a small, badly defined hardness could be felt in the left breast external to the nipple; moderate pressure caused no pain; the hardness remained for two days, gradually becoming less manifest. Lactation ceased in the right breast in five days and two days afterwards in the left. The general condition of the infant appeared to be unaffected.

Bolton, Lancashire.

CASE OF SWALLOWING FISHBONES.

BY J. R. WHITE, M.B.

ON March 8th last I was requested to attend Mr. D——, and on arrival found him in bed complaining of some abdominal pain and also considerable thirst and retching; the temperature and pulse were, however, normal, but the tongue was coated. The history which he gave was that about a month previously he was partaking of fish in company with his wife, when suddenly a somewhat large piece of fishbone slipped down his throat. He immediately rose from the table, and, feeling choked, endeavoured to eject the offending substance, but without success, and it eventually passed into the stomach. Since the date of the occurrence he had not felt much inconvenience, but occasionally suffered from pain in the bowels and also found he could not exert himself or stoop much without causing pain. At last, as the pain got somewhat worse and sickness commenced, he sent for me. The symptoms daily increased in severity. The pulse rose to 120, also the temperature three or four degrees. The vomiting became constant and was accompanied by purging; there were also pain and tenderness in the abdomen, especially in the ileo-cæcal region, and considerable perityphlitis; the stools were of a typhoid character. The case was one in which the symptoms of gastro-enteritis and typhoid fever were closely combined. I had the advantage of the assistance of Dr. Frederick Carter in consultation. In about a week several pieces of fishbone were passed per anum; the largest was a piece of the backbone about an inch long, with spines attached. Amelioration of the symptoms at once began, convalescence being established in a couple of weeks. A sequel which I consider of interest in this case is that the patient was insured in an accident company and claimed compensation for the accident which he had met with, which he obtained.

Grays, Essex.

PYROGALLIC ACID.

BY U. BANERJI, M.R.C.S., L.R.C.P. LOND.

ON May 15th last at about 3.30 P.M. two patients, husband and wife, took pyrogallic acid. From the statement of the husband and from the appearance of the bottle I consider that much more than a drachm of the acid was taken by each. The man told me that he swallowed two handfuls of the poison. On arriving at the house at 4 P.M. I found the male patient under the influence of liquor, and taking a bath under a water-tap. I administered an emetic to each, mustard and hot water. The male vomited, but the female did not. The vomit appeared to consist of water, mustard, mucus and a white matter looking like pyrogallic acid which I at the time held in my hand. Finding that the patient did not complain of anything, I simply ordered twenty drops of dilute nitro-muriatic acid to be taken every two hours, and at night six ounces of olive oil to be taken in three equal doses. Next morning (the 16th) I found the patients in their usual good health, but in both cases the tongue was stained deep black. The urine and stools passed over-night were quite normal. I did not order any medicine. On the 17th I took the following notes from the male patient (the female, I might have mentioned, never complained of anything abnormal): "Sensation of drowsiness coming on at intervals; the patient likens it to that produced by opium. There is nausea, but no vomiting; slight paroxysmal numbness about the extremities and face; slight palpitation and dryness of the throat; tongue moist, still black; no abnormal sensation in the abdomen; passed a natural stool in the morning; heart sounds normal; pulse 62 in the minute; urine normal; perspiration rather scanty;

no headache; slept well." Since the above date the patients have been continuing in their usual good health. No one was present to see the acid actually swallowed, but the patients said that they took it in handfuls. The bottle which contained the acid was as large as a Howard's quinine phial; two-thirds of its contents had disappeared. In the *Medical Record* (page 49) a case is recorded in which a patient suffering from psoriasis was poisoned by pyrogallic ointment applied to one half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. The difference can be explained only by the supposition that the acid acts differently when applied and when taken internally.

Calcutta.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. BARTHOLOMEW'S HOSPITAL.

CASE OF HYSTERICAL PARALYSIS OF THE ABDUCTORS OF THE LARYNX AND OF THE DIAPHRAGM, ASSOCIATED WITH PECULIAR MOVEMENTS OF THE PALATE.

(Under the care of Dr. S. WEST.)

THE following is an interesting account of a patient suffering from paralysis of most important muscles due to hysteria. It is said, and with reason, that this disease may simulate almost any other known disease; but there are usually certain conditions accompanying it which enable the physician or surgeon to recognise the origin of the trouble. Here "the very irregularity of the affection" enabled the physician to come to a correct diagnosis. Had it not been for the careful examination of the larynx and the instructions based on the conclusion arrived at, it is possible that tracheotomy would have been performed for the urgency of the dyspnœa and a considerable element of danger introduced into the case as a result of the performance of the operation. The onset of bronchitis or of pneumonia might have proved fatal where the diaphragm was already paralysed.

The patient, a woman aged thirty-eight, was admitted into the hospital on account of dyspnœa. She stated that she had been in her usual health until Christmas time, when she was attacked with bronchitis, from which she had suffered once or twice before during the last three years. She had had a cough, but her breathing had not become difficult until a week before admission, in the middle of February. The patient was of medium height and well nourished. She was evidently suffering from dyspnœa, for the breathing was laboured and somewhat hurried, the alæ nasi dilating, the face flushed, but without much cyanosis. The movements of the chest were peculiar, the breathing being entirely with the upper parts; the diaphragm was apparently paralysed, for it did not descend at all on inspiration; and the abdomen, instead of being made prominent by inspiration, was retracted, as if the diaphragm was sucked up into the thorax, the lower intercostal spaces and the lower ribs being at the same time drawn in, as were also the supra-clavicular and episternal spaces; the larynx remained fixed and showed no respiratory excursion. On auscultation nothing was to be heard out of the normal except a little wheezing. Inspiration was rather noisy, evidently owing to laryngeal stridor.

On examining the throat the movements of the palate were seen to be extreme, but of a peculiar kind, for on expiration it was raised with considerable violence as high as it could be, becoming on expiration quite flaccid, and falling down as if suddenly paralysed. The vocal cords, on laryngoscopic examination, were found to be in close approximation and separated by a chink not wider than half a line during inspiration, while on expiration they separated and assumed the cadaveric position. The cords themselves were quite white, though the patient spoke with a hoarse voice. As already stated, there was no respiratory excursion of the larynx at all, in spite of the laryngeal obstruction. The arytenoid cartilages did not move towards the middle line on inspiration, when the cords approximated, so that at that time a triangular chink was left in the posterior part of the glottis; on phonation, however, they moved freely towards each other and took their proper place. The condition of the larynx was clearly this, that the abductors were completely paralysed. Of the glottis closers the crico-arytenoidei laterales contracted on inspiration, possibly alone or in conjunction with the crico-arytenoidei to some extent. The arytenoidei postici and obliqui were not paralysed, for on phonation they contracted, bringing the arytenoid cartilages into approximation, though as the voice was hoarse it is probable that their contraction was not perfect, and the same was the case with the crico-arytenoid. The action of the larynx was to a great extent perverted, as was that also of the palate, while the diaphragm was paralysed. The very irregularity of the affection suggested the correct diagnosis—viz., that of hysteria. This diagnosis was supported by the history obtained from the patient, that at the age of twenty-three she had suffered from a contraction of the throat and neck, so that she could not open her mouth, on account of which her front teeth were drawn and she was fed for some weeks by means of a stomach pump. The patient was now put under chloroform, but without any relief to the breathing. Perhaps she was not completely anæsthetised, for the breathing became unsatisfactory, and it did not seem prudent to push the chloroform further. Having formed the opinion that the affection was hysterical, Dr. West's instructions were given that the patient was on no account to be tracheotomised, but that if the dyspnœa became urgent intubation should be performed. This was done two days later, but without much success, for the tube was not long retained in position.

The interrupted current was then applied two or three times during the next two days externally to the larynx. The condition remained much the same until the 22nd, when it was found that the arytenoid cartilages moved on inspiration about half way towards the middle line, thus increasing the dyspnœa somewhat. The breathing had from her admission been noticed to be much quieter during sleep. The patient was able to take solid food, but vomited at irregular times after taking it.

On the 26th, on examination in the morning, the condition was the same, but about mid-day it suddenly changed and the breathing became perfectly quiet. The diaphragm moved naturally, though not freely; the palate ceased to move at all on inspiration. The vocal cords occupied their normal position on quiet respiration and on deep inspiration separated widely as they ought to do; but it was observed that they were in constant oscillation, as if uncertain what exactly to do, sometimes being somewhat approximated and sometimes extremely retracted. On phonation the movements were natural, though approximation seemed to be hardly complete, for the cords were not quite tense enough; and from this cause, as well as from a little laryngitis, the result of the intubation, the voice was still husky. The interrupted current had been used daily and the patient objected greatly to its application. On the 29th the approximation of the cords had returned, though not quite to the same extent as at first and there was but little dyspnœa. On expiration, however, the cords did not recede more than a little and could not reach the cadaveric position by a long way. The same uncertainty about the contractions was evident, which was previously observed, so that on no two consecutive respirations were the positions exactly the same. The palate was stationary and the diaphragm moved now and then, but seemed to be equally uncertain what to do. This condition remained much the same whenever examination was made until March 2nd, and then during the application of the battery to the abdomen the action of the diaphragm became normal, and on applying it to the larynx, and making the patient speak, the voice became quite clear, and both breathing and speaking remained natural till March 4th. On that morning the symptoms had returned, but an application of the battery caused their prompt disappearance, and at Dr. West's visit in the afternoon he found the diaphragm and palate acting naturally, but the action of the cords was peculiar, the uncertainty of their movements being greatly exaggerated—in fact, almost choreic—on quiet respiration, though deep inspiration steadied them for the time, as did phonation also. Phonation, however, appeared to be perfect, for the voice was clear and steady.

The patient, having a great dislike to the battery, and being otherwise not content, declined to remain longer in the hospital. A fortnight later she was admitted in the same condition, and was afterwards sent to a convalescent home. Altogether she was under observation for nearly three months. The symptoms varied from time to time, and often were entirely absent, but when they occurred they were the same as described above, except that the paralysis of the diaphragm and the perverted movements of the palate were never again so marked.

GENERAL HOSPITAL, BIRMINGHAM.

A SERIES OF CASES OF CONGENITAL MALFORMATION OF THE LARGE INTESTINE; REMARKS.

(Under the care of Mr. GEORGE HEATON.)

WE published in the last issue of THE LANCET, p. 257, the first two cases of this series. Case 1 was an example of imperforate anus with probable absence of rectum and descending colon; an artificial anus was made in the left groin and the patient lived six weeks; no post-mortem examination could be obtained. Case 2 was one of imperforate rectum, with penile fæcal fistula. After incision the mucous membrane of the bowel was brought down and sutured to the skin. The child recovered and was quite well when last seen some months after operation. We would refer our readers to the remarks by Mr. Heaton.

CASE 3. *Imperforate anus, with malformation of the large intestine.*—This patient was sent for examination by Dr. Purslow, who kindly allowed the case to be reported. The child, a male one, lived only a few hours, and was the subject also of a double talipes equino-varus, extroversion of the bladder and a parasitic fœtus attached to the dorsal spine. On making an examination, a large pouch was found situated in the middle line behind and projecting externally below the attached fœtus. The small intestines were natural, but several coils were contained in this hernial sac. The cæcum was fixed centrally to the posterior wall of the sac and from it the large intestine passed vertically downwards and entered the rectum in the middle line over the lumbo-sacral promontory. The ascending, transverse, descending and sigmoid colon were thus represented by a piece of large intestine two inches and a half long and both loins were empty of large intestine. The rectum itself ended about two inches from the skin of the anus in a dilated pouch. Passing from this pouch along the back of the bladder to the anus was a dense fibrous band. Externally there was a slight depression marking the situation of the anus. The tuberosities of the ischium were very closely approximated. The other deformities do not need description here.

CASE 4. *Imperforate anus with vaginal fæcal fistula.*—A. X——, aged seven days, was admitted into the General Hospital on May 20th last with a history of having passed all her motions through the vagina since birth. An examination showed the anus to be absent, no depression or marking of the skin being present to indicate its position. The labia majora and minora were swollen, tender and covered with an acute eczematous rash. On straining or crying yellow fæcal matter escaped from the vulva. Chloroform was given and an examination made. On drawing the labia minora apart the orifice of a fæcal fistula was seen, situated posteriorly in the middle line just at the attachment of the hymen. A bent probe was passed through this into the rectum and made to project in the perineum. This was cut down upon and a free opening made into the dilated rectum. The mucous membrane of the bowel was brought down without difficulty and stitched to the edges of the skin incision. The eczema quickly disappeared from the vulva and fæces were discharged normally through the anus. The child left the hospital on June 11th owing to measles, but is to return later to have the fistula closed.

CASE 5.—This case is interesting as illustrating an arrest of the cæcum in its passage from the umbilical region into the right iliac fossa. R. M—— was admitted into the General Hospital on Aug. 18th, 1890, four hours after birth. The infant was a well-formed female child. Protruding from the umbilical region was a membranous sac about the size of a large orange, with walls,—thin and transparent in most of their extent, but thickened on the right side, where the umbilical cord entered. The intestinal coils could be plainly seen through the sac walls. Taxis utterly failed to reduce any of the contents. Two hours after admission the child was given chloroform. The sac and abdominal wall were freely laid open by a vertical incision, and the contents partly reduced into the abdominal cavity. Several coils of small intestine, one with the remnants of Meckel's diverticulum attaching it to the sac wall, were reduced. The cæcum and vermiform appendix were also present in the sac, and reduced after some difficulty, owing to their adherence to the sac wall. The line between sac and skin was well defined externally, but internally the membranous sac was lined for about an inch by a vascular velvety membrane. It was to this membrane that the cæcum was adherent. The sac, with the attached umbilical cord, was cut away and the opening closed with silk sutures.

Aug. 19th.—The child vomited "coffee-ground" matter all that evening, and throughout the night. The vomiting continued at intervals during the day. At 4 P.M., as no urine or meconium had been passed, a small catheter was passed and urine drawn off. The anus was then examined and thoroughly dilated with dressing forceps. This gave vent to a large quantity of meconium. The vomiting ceased from that time and the child rapidly convalesced. The remnant of the umbilical cord separated on August 24th and the child was sent home with the wound soundly healed on August 31st. She has been seen lately, eighteen months after, and is a strong healthy girl. She has never since leaving the hospital had any intestinal trouble.

Remarks by Mr. HEATON.—In Cases 1 and 3 it was not possible to find the rectum through an incision in the perineum—in Case 3 certainly, and I feel sure also in Case 1, though post-mortem evidence was not obtainable in this case, both the ascending and descending colon were absent from their normal situations. The question of colotomy, in cases where the rectum cannot be reached through an exploratory incision in the perineum has been ably discussed by MM. Huguier and Robert, and by Mr. Morrant Baker. Amussat's operation in the loin is open to the objections that the space is extremely limited, the distance between the iliac crest and the lower ribs being in these cases very small and that the thickness of subcutaneous fat makes the wound a very deep one. Again, the descending colon is frequently at such an age attached by a complete meso-colon, and the risk of opening the peritoneal cavity is thus considerably increased. M. Huguier, in his paper on the subject, advocated a colotomy in the right loin. He had noticed that in cases of complete absence of the rectum, the descending colon frequently took a sharp bend to the right and ended to the right side of the middle line. In such cases the operation would undoubtedly be simpler on the right than on the left side. But presuming both ascending and descending colon to be present in their normal positions, as they are in the majority of such cases as far as I can gather from an examination of museum specimens, it seems unreasonable to operate on the right, expecting to find the abnormal rather than first of all to look for the descending colon in its normal position. In Case 1 a diligent search in the left inguinal region failed to find the colon and the exhausted condition of the patient rendered it unadvisable to make a second exploratory incision on the opposite side. In future in a case where a careful perineal exploration failed to find the rectum I should be disposed to make a small median abdominal incision. The iliac fossæ could then be explored and the position of the colon ascertained, then a left or right inguinal colotomy could be performed, as the case might be, and the original wound closed. In the rare event of failure to find any large intestine, the exploratory incision could be converted into an artificial anus by bringing up a distended coil of small intestine and opening it *in situ*. Case 2, in which together with an imperforate rectum there existed a fæcal fistula at the end of the penis, is a rarity not often met with. The urinary passages were quite separate and perfect. The fusion of the hind gut with the proctodeum had failed to take place and in its stead there existed a long narrow fistula connecting the blind end of the gut with the skin of the penis. Case 4 is a common variety of the deformity, and I have seen two other instances. The fistulous communication is, as a rule, a free one and so the patient does not suffer from intestinal obstruction. In fact cases are on record where the subjects of this deformity have grown up without being aware of there being anything the matter. Attention, however, is usually called to the case by the irritation which the fæcal matter sets up in its passage through the vulval outlet. Case 5 is an example of an arrest of the

cæcum in its passage from the umbilical region to the right iliac fossa. Mr. Lockwood has shown that this part of the large intestine, which originally protrudes into the umbilical sac, passes first of all from the umbilical region upwards towards the left hypochondrium. It then passes across the abdomen into the right hypochondrium and finally descends into the right iliac fossa. In this case the cæcum was detained in the umbilical sac, probably owing to intra-uterine peritonitis, of which the florid granulations described as present in the sac are an evidence. This detention would then, of course, prevent the closure of the umbilicus and thus produce the hernial sac. The after treatment of cases of imperforate anus is of the greatest importance and persevering attention is required for a long time. The tendency of the newly made opening is always to contract and unless kept in check the patients will be left with an extremely troublesome and intractable stricture with all its sequences. In many cases no doubt it is impossible to bring down the mucous membrane of the bowel to the skin without undue tension, but when this can be done I consider it of the greatest importance to get union between it and the edges of the skin incision. In one of my cases I obtained such union all round and in another I was able to get union on one side. Very little contraction of the anal outlet has taken place up to now in either of these cases; and the occasional passage of a small bougie is all that is necessary to counteract this.

Reviews and Notices of Books.

Watts' Dictionary of Chemistry. Revised and entirely Rewritten by H. FORSTER MORLEY, M.A., D.Sc., Fellow of University College, London, and Professor of Chemistry at Queen's College, London; and M. M. PATTISON MUIR, M.A., Fellow and Prælector in Chemistry of Gonville and Caius College, Cambridge. Assisted by eminent contributors. Vol III. Longmans, Green & Co. 1892.

THE publication of this most important and valuable work proceeds with commendable punctuality, and the new volume, which is larger than either of the first two, is fully equal to them in merit. It will be remembered that, owing to the rapid progress of discovery and the alterations of plan which were found necessary, little has been left beyond the name of the original editor. Almost the whole has been rewritten, and, although the work has been lightened by the exclusion of analytical and applied chemistry—to the last of which a separate dictionary in three volumes has been devoted—the editors have been compelled to use the utmost possible condensation.

As before, the bulk of the work has fallen on the editors, Mr. Pattison Muir taking the inorganic and Dr. Forster Morley the organic portions. Even the slightest examination will show how enormous the labour and how thoroughly conscientious the work of the editors has been. Quotation is next to impossible, for the contractions employed are so numerous that a large proportion of the book is more like a lexicon than a treatise. In regard to all important substances, the greatest pains have been taken in the statement not only of chemical but of physical data. Thus in the article on nitrogen we find an account not only of the formation, preparation, properties and combinations of the element, but also its boiling point as liquid, its specific gravity as gas and liquid, its specific heat, its coefficient of expansion, its absorption, coefficients, its heat of combustion, and many other most important physical constants. A similar example is afforded in the article on naphthaline, which opens with a long string of physical constants. References to original authorities are incessant throughout the volume, and are greatly assisted by a list of abbreviations printed on a book-marker. One of Mr. Muir's best articles is that on "Molecular Weights," in which the important law of Raoult, which states the relation between molecular weight and the lowering of freezing point produced by solution, is clearly stated and illustrated. It forms as it were an appendix to the articles on atomic and molecular weights in vol. i.

The following special contributors have assisted the editors:—Professor H. E. Armstrong ("Isomerism"), Mr. Carnegie ("Periodic Law"), Mr. Crookes ("Rare Metals"), Mr. C. F. Cross ("Lignone"), Mr. Fletcher ("Mineralogical Chemistry"), Professor Halliburton ("Milk and Muscle"), Professor Huntington ("Metallurgical Chemistry"), Dr. Hutchinson ("Isomorphism"), Professor Japp ("Ketones and Lepiden"), Dr. Rideal ("Paraffin and Petroleum"). Mr. Shenstone ("Ozone"), Professor Tilden ("Pentinene"), Professor J. J. Thomson ("Molecular Constitution of Bodies"). It is evident that in many cases no other authors equally suitable could have been chosen for the articles. Thus, for example, what other chemist could have written on "Rare Metals" with authority equal to that of Mr. Crookes? Detailed criticism of a book like this is of course impossible, and a few words on articles likely to be particularly interesting to our readers must suffice. Mr. Cross, who, with his colleague Mr. Bevan, has worked more than anyone else in this branch of research, has contributed under the heading of "Lignone" a very valuable history of the present state of our knowledge in regard to the process of lignification. It may be regarded as supplementary to the article on Cellulose in vol. i., but it brings the history of discovery well down to the present time. The complex group of carbohydrates is gradually revealing its mysteries in response to the patient labour of chemists. Since the first synthesis of glucose new hopes have grown in the minds of investigators. Many of Dr. Morley's articles—for example, those on Lactic Acid and Phenol—will be interesting to physiologists as well as to chemists, especially as some analytical details are given. Professor Halliburton's articles are somewhat sketchy. Doubtless more details will be given in regard to the constituents of muscle in the article on "Proteids," which has not yet appeared.

When these two important dictionaries shall have been completed, or even before that time, we hope the publishers may undertake the preparation of that much needed work, a dictionary of analytical chemistry. It would form a most valuable supplement to the other two.

Indigestion. By GEORGE HERSCHELL, M.D. Lond. London: Baillière, Tindall, and Cox. 1892.

THE majority of cases met with in practice are probably those which may be classed under "dyspepsia," and perhaps no subject receives less attention in our medical schools. Cases are so common in the out-patient rooms of hospitals, and the treatment of them is so unsatisfactory, that students give little heed to them, and it is only on entering into practice that the deficiency in knowledge of such an important group of diseases is discovered. On referring to the ordinary text-books the practitioner will find but a meagre account of the symptoms and treatment of the all-prevailing complaint, indigestion. The volume we are now considering well supplies the want which has been felt for a concise account of this disorder. Seldom have we met with a work better arranged or more easy of reference. The book consists of less than 200 pages, yet in it the reader will find a very fairly complete account of the subject. The first chapter is preliminary and treats of the process of normal digestion, an intimate knowledge of which is essential to the correct understanding of disorders of the digestive tract. The student is not harassed with numerous theories as regards the processes of digestion, but the facts are stated simply and comprehensively. The causes of indigestion are then considered, special stress being naturally laid on the alterations in the quality or quantity of the gastric juice. The symptoms of dyspepsia are

notably numerous and uncertain, but the author of this work has not shirked his task, and has chronicled them in a most satisfactory manner. He draws attention to some that are but little recognised or rarely referred to their true cause, such as a "feeling of constriction at the root of the nose," which Dr. Herschell states is a very distressing and not uncommon sensation, and adds that it is relieved at once by the insufflation of a little menthol or cocaine. The objective examination of the digestive organs is fully detailed, and then the clinical varieties of indigestion, with special reference to diagnosis, are discussed, the chief points which are considered being the main differences between chronic catarrh of the stomach and functional gastric indigestion—"atonic dyspepsia." The chapter on treatment is naturally the one to which readers will turn with most interest. It will well repay close perusal and study. Diet holds the first place and exact directions are given for the management of the meals in the different varieties of dyspepsia which are met with. Here we should like to offer one suggestion, and that is that the few excellent French formulæ should in the next edition be given in their English equivalents. We congratulate the author on his work, and recommend it to all who wish to successfully combat that most troublesome complaint—indigestion.

The Pathological Histology of Bronchial Affections, Pneumonia and Fibroid Pneumonia. By A. G. AULD, M.D. London: J. & A. Churchill. 1892.

THIS work is manifestly the outcome of much patient research and thoughtful reflection. It embodies several newly noted facts in the normal and morbid histology of the air passages and lungs, and is outspoken in criticism of current teaching on certain points. Indeed, it is not often that the study of the structure of the bronchi is so fully treated. The author shows that the earliest stage of bronchial inflammation involves no change in the epithelial elements, but is purely a condition of vascular engorgement and subepithelial exudation. Then comes swelling of the surface cells, an increased outpouring of mucus, and at the end of twenty-four hours the characteristic process of proliferation and degeneration of the epithelium. Although he admits the difficulty in the way of obtaining proof that there is also actual diapedesis of cells from the vascular territory to the surface, he is not inclined to agree with Hamilton that this does not occur, and indeed he describes the transit of leucocytes through the basement membrane. In addition to these phenomena there are of course changes in the mucous glands, which are succinctly described. In the later stages Dr. Auld finds evidence of proliferation of the connective tissue cells, and he boldly traverses Cohnheim's views of the origin of pus. In respect to the pathology of chronic bronchitis he prefers to attribute the hyperplastic changes which are to be observed in the epithelial as well as in the fibrous elements to an atypical growth rather than to simple inflammatory processes; and he has found that this overgrowth also concerns the muscular and even the cartilaginous structures. Subsequently in this disease atrophic and degenerative changes set in. The section on Bronchiectasis contains also several points of original observation, such as the detection of "aberrant" smooth muscle fibres in the wall of bronchiectatic cavities, and the transformation of the epithelial lining of the bronchi into a layer of flattened cells and duct-like processes which can be seen in the inner walls of the sacculations. The duct-like formations are, he thinks, derived from the acinous glands. He inclines to the view that the chief causes of bronchial dilatation are collapse and atrophy of the pulmonary tissue. There is a chapter on Bronchial Asthma in which the congestive theory is disputed; but the most interesting portions of the book are those which deal with broncho-pneumonia, acute pneumonia and fibroid pneumonia. On the last-named subject Dr. Auld has much to say that is of value, and his conclusions are, in the main, justified by the observed facts. Altogether the monograph is a creditable piece of work.

OUR LIBRARY TABLE.

Plutarch's Life of Themistocles. With Introduction, Critical and Explanatory Notes, Indices and Map. By HUBERT ASHTON HOLDEN, LL.D. Third Edition, rewritten and enlarged. London: Macmillan and Co. 1892.—Those of our readers who wish to retain or revive a working knowledge of Greek could not do better than make this compact little volume the companion of their holiday. Its publication as a first edition some years ago anticipated, and indeed promoted, the present reaction in Plutarch's favour in our schools and colleges, and it has been followed up by others of the same delightful author's Lives—those of the Gracchi, for instance, of Sulla, of Nicias and of Timoleon—all edited by the same highly accomplished scholar and teacher—brother, we may incidentally remark, of Mr. Luther Holden, the veteran anatomist and demonstrator. Every help will be found by the intelligent reader to have been judiciously provided for him, just so much having been left to his independent judgment as to keep it in wholesome exercise during the process of translation. Besides the charm inseparable from Plutarch's work, the Greek in which he writes is of special value for the light it throws on the language of the New Testament.

The Life of Francis Duncan, C.B., R.A., M.P., late Director of the Ambulance Department of the Order of St. John of Jerusalem in England. By HENRY BIRDWOOD BLOGG, M.A., Vicar of Frodsham, Cheshire; with an Introduction by the Lord Bishop of Chester. London: Kegan Paul, Trench, Trübner and Co., Limited. 1892.—This is a memoir of the late Colonel Duncan, R.A., who was well known in connexion with ambulance work in this country and Egypt. Colonel Duncan spoke in the House of Commons on one occasion in favour of the medical department of the army, urging that its officers had to serve too long abroad and recommending that they should be allowed leave every six or seven years for the purpose of study; also that field hospital work should receive more attention in their ordinary training. Colonel Duncan was an energetic, enthusiastic, and most excellent man and this little memoir of him is an interesting one.

Illustrated Lectures on Nursing and Hygiene. By R. LAWTON ROBERTS, M.D. Lond., D.P.H. Camb., M.R.C.S. Eng., Associate of the College of State Medicine &c. Second Edition. London: H. K. Lewis. 1892.—The general scope of the second edition of this work remains unaltered, but additional information is given on the artificial lighting of rooms, the dietary of the sick and other matters. Its contents are mainly arranged on the plan of the syllabus of the advanced nursing course of the St. John Ambulance Association, and call for little in the way of description or comment. It is a very useful book and enters more fully into details than most works of the kind with which we are acquainted. The lectures on the sick room, food and drink, contagious or infectious fevers and on observation of the sick are good. The information supplied is clearly if rather diffusely given, and the directions are plain and sensible, and, with the aid of the illustrations, easily comprehended. The book has a fairly copious index, which adds much to its usefulness and to facility of reference.

Lip Reading. By WILLIAM VAN PRAAGH. London.—In this little pamphlet the author conveys some useful hints for instruction in lip reading, and speaks with authority on a subject which he has long taught and expounded. The instinct which leads those deprived of hearing to utilise the

other senses, especially sight and touch, to gain information more easily conveyed by sound, is the foundation of the subject. It is, in short, a refinement and development of gesture speech; and the proficiency attainable by scholars is dependent largely on the state of their general intelligence, which rules the acquisition of articulate speech as a whole. Sometimes cases are observed in which vocal expression, resulting from lip reading, is painfully defective and is often peculiar. There is in many cases an almost distinctive tone and manner of speech; but the fact, which we have ourselves observed, that the deaf mute may acquire a provincial accent shows to what a degree of perfection an intelligent pupil may attain in lip reading. Not merely deaf mutes, however, but adults who have from any cause become incurably deaf may be restored to communion with their fellows by this means.

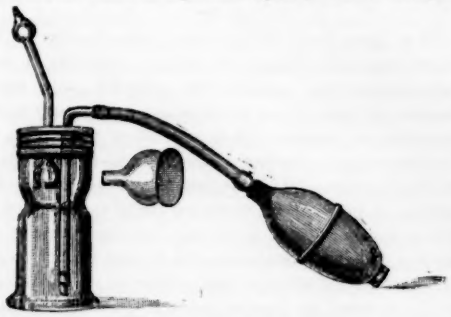
The Journal of Physiology. Edited by M. FOSTER, F.R.S. Vol. XIII., Nos. 3 and 4. Cambridge: Cambridge Engraving Company. 1892.—The following are the contributions to the present number of this journal:—1. A Contribution to our Knowledge of Taste Sensations, by L. E. Shore. 2. On the Respiratory Changes of the Intra-thoracic Pressure measured in the Mediastinum Posterior, by S. J. Meltzer (with two plates). 3. On Retractile Cilia in the Intestine of Lumbricus Terrestris, by M. Greenwood (with a plate). 4. On a Large-fibred Sensory Supply of the Thoracic and Abdominal Viscera, by F. H. Edgeworth (with a plate). 5. On the Nature of Cobra Poison, by A. A. Kanthack. 6. Further Observations on the Influence of Calcium Salts in promoting Heat-coagulation of the Albumins, by Sydney Ringer. 7. The Protective Functions of the Skin of Certain Animals, by W. B. Hardy. 8. On the Excretion of Uric Acid and its Estimation by Haycraft's Process, by A. Haig. 9. On the Fibres of Retiform Tissue, by R. A. Young.

Guide to the Administration of Anæsthetics. By HENRY DAVIS, M.R.C.S. Second Edition. London: H. K. Lewis. 1892.—The present edition contains some additional matter, but in the main is a reprint of the first. The relative safety of anæsthetics receives special attention. The practical details of his subject occupy Mr. Davis's attention rather than the more recondite questions of physiology, and he has endeavoured in his book to present his facts, descriptions and directions clearly and succinctly.

New Inventions.

THE "PULVERFLATOR."

THIS is an apparatus designed to facilitate the efficient use of the compound zinc stearate combinations in the treatment of the naso-pharynx. It consists of a glass reservoir for a powder, closed by a rubber-fitted screw-cap, carrying two glass tubes—namely, a valved blowing-tube with a rubber bulb attached and a distributor. The latter is a glass tube with a conical end adapted for applying to the nostril; this may be replaced by other tubes designed for the larynx or urethra. The cloud of powder raised by the air current forced in by the rubber bulb is screened through a small glass funnel, over which a piece of fine "bolting" cloth is attached. In this way the discharge of the powder in an extremely fine cloud is effected; in fact, when projected into the air, it very closely resembles ordinary smoke. When an antiseptic, a stimulant, a drying or other medicament is mixed with the compound stearate and applied to the diseased area the latter is not only covered and protected by the powder, but, owing to the adhesiveness and persistence of the stearate, it is subjected to prolonged therapeutical action. From its specific lightness, its power of clinging to the membrane and its impenetrability by aqueous liquids the compound stearate is claimed to be specially useful for the medication of the mucous membrane of the nose and throat. We have examined a specimen of pure stearate of zinc and find that it exhibits no tendency to become rancid or to decompose. It is therefore eminently adapted as a vehicle in the treatment of skin affections, or in morbid conditions of the mucous membrane of the nose and throat. Compound zinc stearate is prepared containing also various active therapeutical agents, such as boric, salicylic and tannic acids, bismuth subgallate, cocaine, exalgine, ichthyol, menthol, tar, salol, resorcin, sulphur &c. Messrs. McKesson and Robbins of New York have recently introduced the "pulverflator" and have given special attention to the preparation of the compounds for the administration of which it is designed. The zinc compounds, together with the apparatus, may be obtained of the London agents, Messrs. Maw, Son and Thompson.



TIN-LINED IRON PIPES FOR THE CONVEYANCE OF WATER.

WE have received the following communication from Messrs. Walker and Co., of Heckmondwike, Yorkshire:—"Our attention has been directed to your remarks in THE LANCET of July 23rd on tin as a metal for conducting water, and we note—though you admitted the suitability of this metal for such purpose—you go on to state 'that, if it did not possess certain other disadvantageous properties which preclude its practical employment, no better material could be found.' This fact we have proved to our full satisfaction by long and careful experiments some time since, and we have therefore set to work to try to overcome the very objections you mention, and we now venture to assert that in the tin-lined iron we have succeeded. We are sending a small sample, from which you will see we have the full benefit of a pure tin pipe at the least possible cost, yet combined with the greatest strength. All the fittings—such as T-pieces, elbows, bends &c.—are lined through and all tested to over 2000 lb. to the square inch before leaving the works. No soldering being required, it is both cheaper and easier to fit than lead and gives great satisfaction." In the article referred to, whilst it was admitted that no better metal than tin could be employed, especially as regards its power of resisting the solvent action of water, the drawbacks to its use—namely, its hardness, its inflexibility and its expense—were also pointed out. The "tin-lined iron pipe" overcomes one difficulty, that is in respect of expense. At the same time the invention is a valuable and an ingenious one. Such a pipe is for all practical purposes equal to the pure block-tin pipe; and, if it were adopted, no more would be heard of the contamination of drinking water with poisonous metal. Of course, if it can be shown that no other remedy is forthcoming, then lead-piping must be abolished and an innocuous substitute be used. Tin-lined iron-piping might be employed with advantage, we suggest, in certain manufacturing operations, as, for example, in distilling processes and in the preparation of aerated beverages.

THE LANCET.

LONDON: SATURDAY, AUGUST 6, 1892.

"BOIL your ice." Such is the counsel given by Dr. DAREMBERG to the Parisians in view of impending cholera, and the lesson which underlies the somewhat quaint saying contains the pith of the advice which is necessary for the prevention of cholera. It is now many years since we found that freezing does not destroy the ordinary contagia of the diseases of man. We learnt from Massachusetts of the first epidemic of enteric fever, which was traced to the use of ice from a sewage-polluted pond; and only the other day Dr. GEORGE TURNER presented to the London County Council a most interesting report on the prevalence of enteric fever in the East-end of London through the consumption of "ice-creams," bought from itinerant Italian vendors, whose ingredients were stored under conditions that leave but little doubt as to where the infection came from. "Boil your ice," being enlarged in the scope of its application, becomes for us "cleanliness in all things"—in food, in drink, in all our surroundings. This is the true means of cholera prevention.

In one form or another we have promulgated this doctrine again and again for the last two months; and it is because we attach such enormous importance to it that we avail ourselves of Dr. DAREMBERG'S pithy saying to recur to it once more. The lesson has been taught in every official memorandum issued by the Local Government Board; it was to secure cleanliness in advance of all danger of cholera that in 1883–85 the Government "Cholera Survey" was instituted; and the avoidance of filth in old garments and bedding was the object that recently led to a prohibition on the importation of "rags" into this country from France and from the ports in the Black Sea and the Sea of Azov. Sir ROBERT RAWLINSON, eminent in engineering, but naturally not so skilled in preventive medicine, writes to the public press and says he is "ashamed" that our Government should take such a step as this in its aim after cleanliness. Privy Councillor Dr. HIRSCH, on the other hand, with a world-renowned fame as a student of epidemiology, and with ability to appreciate to the full the immense value of public sanitary works, sends word from Berlin to this effect:—"The importation of rags constitutes a most serious danger and should be prohibited from any infected and even suspected district." On the same day comes an account of four fatal cases of cholera at Gonesse, owing to the fact that a disobedient attendant had taken the clothes of a cholera patient to his own house instead of burning them. Anyhow, we prefer the advice to maintain cleanliness in all things and in no way to limit the application of the doctrine to mere constructive matters such as deal with water-supply and drainage.

We have already given our reason for recurring to this subject, and wish to avoid all appearance of panic-making. There does not appear at present to be more danger to this country than we should at all times be prepared to face. In this connexion we may again refer to Dr. HIRSCH. He tells the inhabitants of the German capital that he has but "little fear as regards Berlin." And his ground for this is that the sanitary system of the city has within modern times become so much "perfected" that, whilst isolated cases and importations may occur, he sees no danger of an epidemic. Here, again, it is on the advance towards cleanliness, of air breathed, of water consumed and of the soil on which Berlin is built, together with the security taken against the importation of filthy articles, such as rags &c. from infected areas, that Dr. HIRSCH relies. To some of us the message may seem a little over-confident—indeed, it may have been transmitted without some of the cautions with which it should have been accompanied. Indeed, in calling the attention of our sanitary authorities and fellow countrymen to the lesson it conveys we would approach the subject from another point of view. We rather are credited amongst the nations of the world for having made greater strides towards cleanliness, both public and private, than any other country. But those who have taken part in this invaluable work and progress are, of all others, best aware of the large arrears that have yet to be made up and of the ample room that remains for further progress. There are spots in abundance that seem almost to be waiting their opportunity to impress more emphatically the lesson that epidemic cholera and filth go hand in hand. There is the barbarous and revolting middenstead system of our northern counties, polluting air and soil by its emanations and soakage; there are similar systems in the south and elsewhere under which it has become a custom to dig two holes in every man's garden and then to pour all liquid filth into one which is called a cesspool, whilst the drinking water is drawn from the other one which goes by the name of a well. There are houses by the thousand in which the drinking water is drawn from a cistern which also serves a watercloset, and which is also placed in direct communication with the house-drain by means of its overflow pipe; and there are houses in every town by the score and even by the hundred in which there is no such proper disconnexion of house-drain and waste-pipes from the public sewer as to free them from risk of the ingress of that sewer air from public culverts, which may at any moment be a means of conveying the contagium of imported cholera. Our communities are the more to blame because they can no longer plead ignorance. There are members of sanitary authorities who will not provide proper means of sewerage and of water-supply because they fear to lose their seats on the boards at which they sit; there are communities who deliberately elect opponents of sanitary reform because they prefer a risk which seems somewhat remote to a certainty of increased rates; there are public bodies who leave individual inhabitants to perform works of cleanliness and scavenging which they are aware they cannot properly carry out; and there are householders who live on year after year in dwellings into which they know sewer air can make its way by one channel or another—indeed, such people can be everywhere found in abundance. It is communities and persons such as these who will be among the first sufferers if cholera should come, and it is the towns and localities in which they live which will constitute a standing danger to the community at large. On the other hand, if they will but amend their ways, they will be the first to benefit, for, whether cholera should come or not, we have ample experience to show that

permanent measures adopted against that disease have contributed more than anything towards a diminution of those infectious diseases—and notably of enteric fever—which we have always with us, and which are so costly a burden owing to the sickness and death by which we are deprived of the lives and labour of the breadwinners, who constitute the most remunerative element of the State.

THE selection of such a subject as bacteriology for one of the three general addresses delivered at Nottingham before the British Medical Association is a sign of the times. It clearly demonstrates how firm a position has already been gained in medical thought by one of the collateral sciences, besides testifying to the importance of the place which it occupies among them. It is little more than a decade since this subject gained any prominence, and the remarkable researches of which it has been the source have flowed in such abundance as to overwhelm the slower progress of other branches. The subject is so fascinating and the way is so open to new investigations that its rapid advance is hardly matter of surprise; and although in more than one direction the path has seemed closed, and steps have to be retraced, yet on the whole the amount of actual progress within the memory almost of the youngest follower of medicine has been surprisingly great. The opportunity for taking stock of the knowledge already possessed and for indicating the lines upon which research has still to be pursued in this subject has been wisely seized; whilst the exposition of the matter could not have been entrusted to a bacteriologist better qualified for the task than Dr. SIMS WOODHEAD, whose address will be found in another column. He was justified surely in pointing with something like pride to the recognition that bacteriology has obtained; and his survey must have impressed his hearers with the fact that the confidence placed in bacteriology is fully justified. This it could never have received had the study of bacterial life been merely that of the botanist. It is on account of its intimate relationship with the vital processes, normal and deranged, of higher organisms, because of the light it sheds on parasitic action and the intimate processes of cell nutrition, that it has laid hold of the scientific imagination and revolutionised pathological ideas.

It is not surprising that bacteriology should have paved the way to many theories concerning the method of action of bacteria upon the organism in which they flourish. As Dr. WOODHEAD reminds us, the earliest notions were based on the effects produced by mere mechanical arrest of the circulation through accumulation of the microbes in the bloodvessels; but when this view was found to be insufficient theories were propounded as to the parasites requiring for their maintenance the oxygen which the cells of the infected organism could not lose without being devitalised. Still this view lacked general confirmation, and hence it has come to pass that the chief *rôle* of bacteria in respect to disease is now considered to be played in connexion not with deoxidation but with the formation through their action of chemical substances inimical to cell nutrition. The various morbid processes with which we are familiar, in the facts of pathological anatomy, have thus many of them an origin in parasitic organisms. Inflammation, as Dr. WOODHEAD pointed out, has been largely explained in this way; and it is by no means improbable that some at least of the forms of neoplasms may be initiated through such agencies. It is, however, in the class of infective diseases that the influence of micro-organisms has been most clearly shown, thus bearing out the truth so long only guessed at that there are germs of disease, although the meaning to be attached to such a phrase is materially different from that assigned it by the earlier theorists. Dr. WOODHEAD selected diphtheria as an example of the affections in which the mode of action of the infective microbes has been most fully studied. He reminded his hearers that the early experiments of Professor LOEFFLER, who separated the bacilli from their products by filtration, and the subsequent observations of Professors ROUX and YERSIN yielded results in complete harmony with the interpretation of the clinical phenomena of the disease, in which the profound general disorder of tissues and organs ensues upon the primary local manifestations. These observers established the fact that the diphtheritic organisms are not to be found in the body beyond the site of inoculation, and that the general effects were produced by their products. Dr. SIDNEY MARTIN succeeded in isolating the poisons thus produced. He showed that the essential chemical agencies which exert so powerful an influence on the tissues in diphtheria were albumoses, and it is remarkable that he also failed to detect any alkaloid as in anthrax, but a feeble organic acid which had a poisonous effect on the tissues similar to, but far weaker than, that of the albumoses. The mode of formation of these substances from the fibrinous exudation that forms on the unhealthy mucous membrane which serves as the point of attack of the diphtheria bacillus has been admirably worked out by Dr. MARTIN, and was clearly summarised by Dr. WOODHEAD. In this chain of processes, commencing with the specific bacillus, its appropriate media, its power of producing a ferment or enzyme, and the further effect of this in the conversion of fibrine into albumose, we find the most complete presentation of the mode of action of pathogenic bacteria which can be desired; and the field, previously explored by Dr. MARTIN as regards anthrax, is open for multifold inquiries on the same lines throughout the whole range of infective disease. It is indeed true that in chemistry lies the solution of many a pathological problem, as was clearly foreseen by the late Sir W. AITKEN, to whom appropriate reference was made by the lecturer. Incidentally Dr. WOODHEAD suggested some improvements in the way of making greater use of opportunities for the application of bacteriological knowledge to immediate practical purposes, being led thereto by the advocacy of Professors ROUX and YERSIN of culture observation in the diagnosis of diphtheria. We commend his suggestions to the notice of the profession.

Yet so far in his address Dr. WOODHEAD had not touched upon the matter which was doubtless uppermost in the minds of many of the medical practitioners who were listening to his exposition. He had sketched, with a clearness which all could appreciate, the steps whereby we have attained to our present conception of pathogenic organisms and their action. May not some have asked themselves whether this increase of knowledge of the nature and action of bacteria had any light to throw

upon the means of counteracting their effects, whether insight into treatment was to follow on insight into pathology. Dr. WOODHEAD did not leave them long in doubt, but presented as clear a statement of the question of protective inoculations. That "anti-toxines" do exist in some of these infective diseases, if not in all, must be admitted from the evidence; but that they act in any other way than as stimulating and reinforcing protoplasmic reaction to bacterial poisons is improbable. Again, in some diseases the protective influence of previous attacks or of repeated non-fatal inoculations may be ascribed as the "acclimatisation theory"—that the cells of the body gain in their powers of resistance under the action of the poisons themselves. He showed, too, how different this action was from that which occurs in the tuberculin treatment, where necrotic changes are set up by the agent acting in conjunction with the bacillary poison itself, and he did not hold out much hope of such a process having a permanent effect. Lastly, preventive treatment by inoculation with attenuated virus was dealt with and due credit given to our own countryman, Professor GREENFIELD, whose labours on anthrax have been overshadowed by the work of M. PASTEUR and his school. We believe that there is a great future in store for bacteriology, and it is likely enough that many views now held on the subject will in course of time receive much modification. Still it is impossible to be unaware of the very striking and, in the main, harmonious results that are being gleaned from all the laboratories in the study of the subject; and it is gratifying to our national pride to know that, in spite of many and great difficulties, some of the most notable advances have been made by workers in British laboratories.

IT was foreseen that the Notification of Infectious Diseases Act would in various ways raise difficult and delicate questions between the medical man and his patient, the medical man and the public, and even between one medical man and another. In the actual working of the Act these views have been realised. Those who keenly opposed this Act may see in its results a confirmation of their objections, and may still wish that it had never been passed. A closer view, however, of the subject will show that such wishes are futile. It is clear that the public is bent on reducing to a minimum those diseases with which the Act deals. Even a change of Government is not likely to alter the determination to make it compulsory instead of, as at present, optional. There are various reasons for this. Mere economy is one. The cost of the cure of infectious diseases is being more and more thrown on the public. The fever hospitals are being used by an increasing number of persons and by classes of a higher social position than formerly. If the State sees its advantage in receiving such patients into isolation hospitals, it will also see to the best means of limiting the number of cases to be admitted. Society is determined on restricting individual liberty. It will not, if it can help it, allow the individual to contract infectious disease, or, having contracted it, to freely diffuse it. This may be a great inconvenience to the individual, but it is clearly right. Under these circumstances we have to consider, as medical men, our own duty in respect to the Act, which may be strengthened but will not be repealed.

Our first duty, in the light of the requirements of the Act, is to perfect our skill in diagnosis. Legislation has emphasised the importance of this art and any mistake therein is calculated to bring our defects into special prominence. There are some cases in which diagnosis is not urgent. We may take time to make up our minds. There are other cases in which promptitude of diagnosis is a virtue, provided that it be sound. We must not be understood to recommend any undue haste. Diagnosis cannot in any case be hurried. Time must be given for the development of the symptoms on which it must be based. Typhoid fever is especially a case in point. By exclusion of other diseases the practitioner may have a shrewd suspicion that his patient, with the persistency of a certain pyrexia, is suffering from this disease; but it would scarcely be judicious to consign him to an isolation hospital before the appearance of rose spots or of characteristic diarrhœa. Still there may be undue delay in forming a diagnosis till cases have multiplied and avoidable mischief has been done. Mistakes in diagnosis are inevitable, especially in regard to infectious diseases. The managers of the fever hospitals say that they are even on the increase. Four hundred and eighty-eight patients were sent to these hospitals in the course of 1891 who were found not to be suffering from the diseases mentioned in the certificates on which they had been received. The percentage of errors in the diagnosis of patients sent to these hospitals is alleged to have increased during the past five years from 2·4 to 6·2. This, if correct, is a most unsatisfactory result, but it is not altogether unintelligible. The duty of notification has been thrown on the profession somewhat suddenly and failure in the discharge of the provisions of the Act has been severely punished. In some respects the opportunities afforded to students of seeing the infectious class of diseases have been reduced, first by the abolition of pupilage, and secondly, by the increasing tendency to exclude such diseases from general hospitals. When the intrinsic difficulty of diagnosis is considered—a difficulty experienced by experts, who make their share of mistakes—the wonder, indeed, is that only a few errors are made in dealing with so many thousands of cases, many of which occur under circumstances very unfavourable for a careful observation. Still we must not regard those mistakes lightly, and they should be reduced to a minimum. One of the medical officers of the Metropolitan Asylums Board, Dr. BIRDWOOD, medical superintendent of the small-pox ships, has, with this view, suggested that in small-pox cases—and we presume he would apply the rule to other diseases—the ambulance conveying the patient should be accompanied by a medical man, having experience of the disease, to confirm the diagnosis. The suggestion is in some respects of a rather impracticable nature, although to many it may seem no excess of precaution to require that before consigning a person to the risks of an infectious hospital two medical men—as in the case of insanity—should certify to the nature of his disease. But even if such a regulation should be made, it is alike the duty and the interest of every practitioner to be acquainted with the essential symptoms of the notifiable diseases. Such an acquaintance can only be obtained by careful and minute clinical study. There is but little excuse now for medical students who do not make this acquaintance. The hospitals of the Asylums Board have

been opened to them through the efforts of the College of Physicians and the action of the General Medical Council. Medical men in actual practice can by taking due pains eliminate all but a few doubtful cases. Deliberation must be practised in taking the history of the case and ascertaining the chances of exposure to infection, though this often cannot be traced. The clinical thermometer must be used invariably. He would be a rash practitioner who would fail to use it before notifying, or would send a patient into a hospital for infectious diseases with a temperature under 100° F. To an observant practitioner nothing will be lost. The symptoms at the onset will be well studied as well as those of the fully developed disease, and his carefulness will in this way be matured. There is no royal way to infallible diagnosis. It is only by multiplying good reasons for a diagnosis that it can be sustained or justified, and these good reasons can only be obtained by observation and by reflection on the possibilities of error.

There remain the doubtful cases. What is the practitioner's duty in regard to these? Every day increases his responsibility. He cannot notify till he is satisfied that the patient is suffering from a notifiable disease; but he is by no means free from risk of blame if such a disease is before him and he fails to see it when he should be aware of its presence. To prevent such an error, and the perhaps greater one of notifying that which does not exist, the most reasonable course is in doubtful cases to seek the advice of another practitioner. This is one of the cases for the opinion of an expert. If a patient cannot pay a fee for such a consultation, an experienced friend is generally available, with whom counsel should be taken. When reasonable doubt still remains, or if the consultant or the experienced friend hesitates to pronounce the presence of notifiable disease, it is obviously right to give the patient the benefit of the doubt. But in all such cases the possibility of a spread of infection should be carefully guarded against by as complete an isolation of the patient and disinfection as is feasible. The great point of ethics in this matter is to cultivate accuracy of judgment, and in doubtful circumstances to do to others as we should wish them to do to us. The mere fear of being detected in an error of diagnosis is not a high consideration, but together with others of a higher nature it should prompt us to vigilance and care in the discharge of one of the most important of our functions.

IT may be not inopportune, at a time when the distribution of the great annual collection made by the religious bodies of the metropolis on behalf of our accredited medical charities is announced, to call attention to a great evil, none the less serious because pertaining to that large class of wrongs which are "wrought by want of thought" rather than by "want of heart." The evil to which we allude is that of the promiscuous lending of names—done in all goodfaith and with the best intentions, but so hastily and so unreflectingly as to be productive of incalculable harm. For our present purpose it will suffice if we select two examples of the mischief resulting from this practice, and ample evidence of its existence can be found any morning in the advertisement columns of our contemporaries. A would-be benefactor, for some reason or other—we put it purposely as indefinitely as possible—proposes to add one more to the already excessive number of London medical charities. For this purpose the first thing to be done is to secure the names of a number of influential and well-known people to figure on the list of patrons, vice-presidents, council and the like. The facility with which this object can be attained is astonishing. Holders of the proudest titles — persons of all others, it might be thought, who would be most jealous of the dignity of their names—out of pure good nature, and for the mere asking, sanction their use by the first applicant who comes pleading the cause of what is apparently charity. The "Hospital for Diseases of the Great Toe" (to take a humorous illustration once suggested by Sir ANDREW CLARK) is no sooner started than it commands the patronage of half the aristocracy and a respectful following of City magnates and plutocrats. It is perhaps doubtful whether any one of these gentlemen directly contributes a single penny towards its endowment or support, but the lending of a name costs nothing, and no active measures are required, save perhaps the pleasant labours involved, especially on the part of the ladies, in the holding of a fancy dress bazaar or a private theatrical entertainment. People who lend their names in this unthinking fashion never pause to consider whether the object in view, however meritorious at the first blush, is either necessary or desirable. In the case cited if these nominal patrons were to consult their medical advisers they would probably at once learn that, owing to the want of funds, many of the general hospitals in London have beds unoccupied, and even closed wards, whilst the money their names will attract into the coffers of the "Hospital for Diseases of the Great Toe"—for

> **"Some to the fascination of a name**
> **Surrender judgment hoodwinked"—**

would have placed these beds and wards at the disposal of many applicants who now, alas, have to be turned away. Moreover, they would be told that the multiplication of special hospitals is viewed with disfavour by the profession as a body, and is quite unnecessary, seeing that the general hospitals are provided with special departments. We have no hesitation in saying that, speaking broadly (for there is no rule without exceptions), the rivulets of the stream of charity—and even the smallest of these, properly directed, may prove of eminent service to suffering humanity—if diverted from the legitimate channels of the general hospitals and allowed to irrigate the comparatively unnecessary pastures of highly specialised institutions not only run to waste, but serve to obliterate the landmarks which indicate the more useful and, in our opinion, more deserving harbours of refuge always open to sufferers, be they the victims of a general constitutional disease or of a purely local trouble affecting, let us say, the distal phalanx of the great toe!

The other example of the injudicious "lending of names" which we had in mind is of a different nature, and one in which those who err are of a less distinguished class of society. We refer to the published testimonials of the efficacy of quack remedies, cure-all nostrums *et id genus omne*. The reader of this remarkable species of literature is naturally inclined to believe that such *testamurs* are not genuine, and to regard them as merely the ingenious outcome of the fertile brains of enterprising and irresponsible advertisers. It has been proved, even

we fancy, in courts of law, that many of them are, in fact, instances either of misplaced gratitude of an evanescent nature or of fortuitous circumstances. Still, this does not by any means increase their value. The subject has undoubtedly a certain psychological interest; for what bent of mind must those persons have who, by iteration and reiteration, are convinced that the claims of quack medicine vendors, outside stockbrokers and turf prophets are worthy of credence? The cynical remark of CARLYLE that there are so many millions of people in the world—mostly fools—would, we fear, appear to be not less applicable now than in his days, for of a certainty the cost of these advertisements is eventually paid out of the pockets of the British public and not out of the purses of their shrewd authors.

In conclusion we would appeal to members of our profession to acquaint their patients and their friends, as they may have opportunity, with the real worth of the claims of those magnificent institutions, our great general hospitals; and to impress on them the folly—nay, rather, the positive harm—of lending their names "because they are asked" and, we may add, because they are too good-natured and sometimes too indolent to refuse.

Annotations.

"Ne quid nimis."

THE METROPOLITAN HOSPITAL SUNDAY FUND DISTRIBUTION.

IN the course of a very brief report the Committee of Distribution appointed by the Council of this Fund have dealt with the claims of a hundred and seventy-six institutions and the awarding of £40,118. It appears that the investigation made by the committee has resulted in adverse criticism in sixteen cases, one of which proved upon examination by the light of explanations afforded by its committee to be open to no reproach and has accordingly received an award upon the full merit basis. The remaining fifteen have been less able to meet the criticisms of the committee Seven of them appear to have acquiesced in the strictures passed upon them, five others have tendered explanations but without fully convincing the Distribution Committee of their freedom from blame, and three have been altogether refused any participation in the Fund. It is well that these facts should be generally understood, for it is plain that the effect of such criticism must be most salutary, and the public will place confidence in the administration of the Fund when they perceive that the supervision exercised by the Council through the Distribution Committee is very far from being a dead letter. Another point of equal importance is that to which, in moving the adoption of the report, Sir Sydney Waterlow called attention—namely, that the awards are made not simply upon the basis of the work done by the various hospitals, but also and even more directly in proportion to their needs. Of two institutions doing practically the same amount of work one may stand greatly in need of help and the other in little or no need at all. It is most proper that this aspect of the case should receive the consideration of the Distribution Committee, and we should have supposed that it was generally understood that this is, and must be, the fact, if it had not been that the House of Lords' Committee manifests some imperfect appreciation of its being so. We have repeatedly stated this in the pages of THE LANCET, and have again and again explained the manner in which the committee proceeds; but there is still occasion to repeat the statement, since some, at least, whom it most concerns to understand these matters appear still to be under some misconception respecting them. In connexion with the Hospital Sunday Fund we may be allowed to express our gratification at the honour conferred by Her Majesty on the Lord Mayor in appointing him Knight Commander of the Most Distinguished Order of St. Michael and St. George. Sir David Evans has been most assiduous and courteous in all the functions of his high office, and has well sustained the character of the Mansion House, not only for hospitality, but for ready and sympathetic help to the needy in their distress. When honours are a reward for such services they benefit alike the State which gives and the citizen who receives them.

HEAT STROKE IN AMERICA.

THE phenomenal heat-wave which for upwards of a week visited the chief cities of the United States not only deranged traffic and business to a remarkable extent, but was the cause of much sickness and mortality. It was stated that July 28th was the hottest day that had been experienced in that city for twenty-one years, and the death-roll then was such as to exceed the highest mortality ever known in twenty-four hours. On the 29th a temperature of 107° in the shade was registered, the deaths numbered 223, including 111 children under the age of five. Although on the 30th there was a fall in temperature the death-rate still remained excessively high, and it is stated that the total mortality in New York for the week ending at noon on the 31st amounted to 1434. Similar reports came from Chicago, and the same intense heat, with all its attendant discomforts and dangers, was generally experienced in the districts east of the Mississippi. No doubt the effects were the more severe since associated with the excessive temperature there was an abnormal degree of moisture in the atmosphere. The effects of heat on the human organism are not only seen in the occurrence of heat apoplexy or sunstroke where the attack is sudden, the patient becoming comatose and hyperpyrexial, but in less severe cases it produces great nervous prostration and even cardiac depression. It was noted in New York that the worst effects were observed in the more densely populated districts of the city, and it is to be observed that not only did the human population suffer, but there was also a great mortality among the horses from the same cause—on one day as many as 1 in 5 of the horses employed by the tramway lines succumbing to the heat. As part explanation of these dire results it must be remembered that the conditions of life and habits of these large cities are ill-adapted to defend the inhabitants against such an abnormal rise of temperature.

"IN AID OF SICK CHILDREN."

ON Friday, July 22nd, there was held in the Edinburgh Music Hall an exhibition of wild flowers, gathered all over Scotland by children, to whom prizes were given for the most effectively arranged specimens. Sixteen hundred was the number of the juvenile competitors, and there were on view in the hall 1642 exhibits, of which no fewer than 881 were bouquets of wild flowers prepared by children; while there were, in addition, 185 bouquets arranged by seniors, to say nothing of 254 bouquets of grasses. The spectacle was admired by numerous relays of visitors of all ranks throughout the day, to whom it was matter of equal surprise and delight that the highways and byways, the mountain sides and the river valleys, the moors and the marshes, could be made to yield so rich an assortment of floral colour at once delicate and glowing, and that the artistic taste and neat-handedness that grouped the flowers in such a variety of graceful forms were

so widely diffused among the humblest of the population. Nature herself was on exhibition in her freshest and most attractive *pose*, not only in her infinite wealth of outline and hue as represented by the flowers, but in the versatile contrivance and design manifested in the original, unsophisticated art of her child-votaries. Alternating with the vast array of hand-bouquets—combining heather, thistles, bluebells, wild roses, honeysuckle and white heather—were baskets and wreaths of the same, only less attractive in colour and arrangement; while the assortment of dried foliage from common British trees gave to the exhibition a scientific value dear to the botanical visitor. The prizes awarded by the umpires (among whom the chief place was appropriately held by Mr. Lindsay, curator of the Royal Botanic Gardens, and Mr. Dunn of the Palace Gardens, Dalkeith) amounted to 200, and consisted of watches, books and other articles of use to the fortunate competitors. But the real prize, in which all had more or less a share, was the education of mind and eye and hand conveyed in the gathering, the selecting and the arranging of the flowers into groups which by their artistic grace redoubled the native attractiveness of the flowers themselves, as they undoubtedly refined and stimulated the sentiment, the taste and the manipulative address that were expended on the handiwork. And, having served this most valuable of educative functions, the articles comprised in the exhibition were finally put on sale and the proceeds, mostly of small sums for the bouquets and flower baskets, were devoted to the funds of the Sick Children's Hospital. The chairman of the exhibition, Mr. John Leng, M.P., announced that in seven years as much as £1321 had been contributed by such means to children's hospitals; and Sir William Muir, Principal of Edinburgh University, dwelt on the beautiful thought which sent the healthy children of Scotland over the hills and dales of the native flora to gather flowers in aid of their little brothers and sisters lying in hospital. Charity and education were thus made to go hand in hand, teaching the lesson that nature-worship and art and science are never so admirable as when linked with the sentiment of humanity. Among the most effective promoters of the exhibition was Mr. Charles Jenner, whose propagation of wild flower culture and domestic gardening among our urban and suburban populations has already done much to refine and sweeten their lives. A munificent contributor to the floral decoration of the exhibition and also to the funds in aid of which it was promoted, Mr. Jenner confirms and enhances the honour attaching to a name, well-known in days past as well as present for its association with the science and the art of medicine.

HOME FOR EPILEPTICS.

THERE was published in *The Times* recently an influentially signed letter calling attention to what it is hoped may one day develop into something like the well-known epileptic colony in Germany. The need for a home or refuge of some kind to which epileptics could be sent has long been felt by those who have been brought much into contact with such patients. Every convalescent home is closed against them, they are frequently incapacitated by their unfortunate malady from occupying positions for which in other respects they are well fitted, and they cannot be regarded, except temporarily, as suitable for treatment in hospital, even in those institutions which more particularly deal with such cases. A charitable lady, impressed with the wonderful success of the German colony, is making a laudable effort to imitate it in this country. A large house and grounds, we understand, have been purchased close to New Godalming, and the house has been suitably furnished to accommodate fifty or sixty patients. The management has been entrusted to a committee, but, although the house is now ready the committee do not consider it prudent to throw it open until at least £500 are in the bank ready to be applied to the maintenance of patients. An appeal is made to the public for this sum. We cannot too strongly recommend such an object to a charitable public, and we wish the promoters every success in their efforts to alleviate the miserable lot of some of the most unfortunate amongst us. The inmates of the home are to be all females, and one of the best features of the undertaking is that it will be, to a certain extent at least, self-supporting. The patients are to be provided with suitable employment and are to be encouraged to assist towards their own maintenance; so that on the one hand they may be benefited physically by the light work which they would have to do, and on the other retain that self-respect which the objects of charity too often lose. We cordially wish the scheme every success, and we trust that it may be the means of bringing hope and cheerfulness to many a miserable existence. Messrs. Coutts and Co., 59, Strand, will receive donations or subscriptions in aid of the institution, which is to be called "The Meath Home of Comfort for Epileptics."

THE SHELLEY CENTENARY.

THE anniversary of the hundredth year since Shelley's birth was solemnised on Thursday last at his native town, Horsham in Sussex, by the foundation of a "Shelley Library and Museum" as the most fitting memorial that could be raised in the poet's honour. The institution in question is destined to absorb the libraries already existing on the spot and "to be governed in such a manner as to secure the support of all sections of the community." In addition to general literature, every work bearing directly or remotely on Shelley will be included in the library, while the museum will offer a home for such personal relics of the poet as the committee may be able to acquire. As a man and as a poet Shelley had his failings and defects—the failings and defects of his special and in some respects unique qualities. He was too ecstatic to be always sound; too impulsive to be always wise. But he was a high-souled, self-sacrificing "paladin in the liberation of humanity," whose heart beat responsive to the yearnings of his brethren for "the ampler ether, the diviner air" of social and individual freedom, and whose services were ever at the command of any cause, desperate though it seemed, that strove to make "all men's good each man's rule." There is, we understand, a corresponding movement in Italy to commemorate the good work rendered by the poet during his brief stay on the Tuscan seaboard in 1821–2; and in the monument erected at Viareggio, to mark the spot where his dead body was washed ashore and recognised by his friend Byron, a tribute will be paid to his generous espousal of the Italian cause in those dark years that followed on the reactionary treaty of Vienna. Over and above the historic deeds that link his name with the peoples' emancipation, political, social and religious, of which the latter decades of the nineteenth century are witnessing the fruits, his writings reveal a philosophic spirit in harmony with the most momentous findings of science, a spirit which under happier auspices might have worked itself clear of the crudities and morbid developments that vitiated his teaching and retarded his mission. The Greek culture to which his moral and intellectual being took so kindly fed his mind and soul with influences that required only scientific sustenance to make their practical outcome and their literary expression sound and clear. How susceptible he was of profiting by such sustenance may be seen in the wonderful generalisation that struck the keynote of his philanthropic life:—

> "Nothing in this world is single;
> All things by a law divine
> In one another's being mingle."

What is this but a dim, poetic forecast of the axiom that

the universe is indissolubly connected with its minutest parts—that "the simple germination of a lichen is, if we apprehend it rightly, linked directly with the grandest astronomical phenomena, nor could even an infusory animalcule be annihilated without altering the equilibrium of the universe"? The congenial gifts that made him one of the profoundest Platonists of his time doubtless prepared him for the teaching of the "Philebus" that the world is one huge animal organism, "the manifestation of some transcendent life, with which each separate individual life is related as is the part to the whole." It is the undeveloped potentialities of his rich and many-sided nature that make his career and his writings at once so interesting and so tragically pathetic, and that qualify the physician, even more than the votary of any other calling, to share with special sympathy in the memorial tribute intended to "perpetuate his name and inspiration in the locality of his birth."

THE FLY PLAGUE OUT OF DOORS.

LAST week we had occasion to discuss briefly some of the contrivances usually employed to combat the annoyance caused by house flies. We also noticed the fact that out of doors during the present hot weather a similar pest has to be encountered in a pre-eminent degree. Road, pasture, wood and mountain-side swarm with insects which attack the unprotected face the live-long day. The traveller cannot rest, the fisher cast his line, or the sportsman set himself to shoot but this Musca volitans, half a dozen at a time, is on his eyes. How best can the plague be met? Perpetual movement is impossible, and no degree of facial mobility would secure immunity; the hands have other duties. By common consent the veil, in one or other form, has been accepted as the surest and most ready means of defence. A correspondent mentions a visor of this kind as a suggested remedy. We cannot remember having met with this invention, but there seems to be no reason why it should not satisfy the needful requirements. Supported on a light wirework and made large enough to cover both head and neck, it could hardly fail to prove efficient. Still more simple is the contrivance adopted by our soldiers in Egypt—namely, a circular veil attached to the rim of the helmet, and falling down over the chest and shoulders. Health and convenience alike would gain by such additions to the armoury of comfort. That the bites of flies, in one at least of its species, may be the source of more than mere inconvenience has been already shown in our columns; and we record this week another example of the fatal results sometimes attending the attacks of these noxious pests.

SEASONABLE SANITARY WARNINGS.

A NUMBER of cautions are just now being issued by medical officers of health. Dr. Sedgwick Saunders in the City of London urges that care be taken as to water-supplies and as to milk. Diarrhœa is steadily on the increase, and in infants this often means contamination of milk in the wretched places in which it is stored—such as pantries opening out near dustbins. In the Trent Valley, certain inhabitants of the Gainsborough rural district are, notwithstanding the protests of Mr. H. Wright, the local health officer, and of the Local Government Board, still obliged to drink from the polluted river. In Essex Dr. Thresh issues notices of warning to the Maldon rural authority. In their district Latchingdon, Purleigh, Tiptree, Tillingham, and other places are in considerable difficulty. At Purleigh people who are willing to pay for a bucketful of water cannot get it; and all the while 40,000 gallons a day of excellent spring water near by at Danbury are running to waste. At Latchingdon the water is described as being like pea soup and as stinking. The truth is that many of the parishes in question are on the London clay, which is some 300 to 400 feet thick, water being procurable only by deep wells bored through it or by surface ponds. The latter are all failing. The springs at Danbury would supply a large number of hamlets if the water were impounded. This would necessitate some twenty miles of piping, but the boon conferred would be immense and the outlay doubtlessly in the end remunerative. Dr. Thresh has often given sound advice which has been followed with the best results, and we trust that his counsel in this important matter of a pure water-supply for the Maldon villages will receive the favourable consideration which it so evidently calls for.

TREATMENT OF HABITUAL ABORTION.

ASSAFŒTIDA has been recently recommended in cases of habitual abortion. Dr. Turazzo gives it in pills containing a grain and a half as soon as it becomes clear that a new pregnancy has commenced. At first only two pills are prescribed, but later on the number is gradually increased to ten daily. The treatment is continued until the labour is over, and then the daily dose is gradually diminished. By this method cases where as many as five successive abortions had occurred have been successfully treated, and where in one instance a miscarriage appeared to be imminent during the seventh month it was averted and the patient was delivered at full term.

THE ARROW POISON IN THE NEW HEBRIDES.

M. DANTEC has examined and experimented with the arrow poison used by the natives of the New Hebrides. He finds that it contains neither vegetable poison nor serpent virus, but consists of earth impregnated with vegetable matter taken from marshy places and containing Pasteur's *vibrion septique*, or bacillus of malignant œdema and also the bacillus of tetanus. If the arrows have been kept a long time or have been much exposed to the sun the *vibrion septique* may have been destroyed; the danger then is from tetanus. When the arrows have been freshly prepared and the *vibrion septique* is still active a wound from them causes death in a guinea-pig from septicæmia in from twelve to fifteen hours; tetanus, which takes longer than that period of time to develop, does not under these circumstances show itself. It is interesting to remark that the horse is unknown in these islands, consequently the theory of the equine origin of tetanus would seem to be negatived by these researches.

THE VALUE OF NOTIFICATION.

THE rural sanitary authority of the Newton Abbot Union have been urged by a deputation from the inhabitants of Torquay, Paignton, St. Marychurch, Ashburton, and Cockington to adopt the Infectious Diseases (Notification) Act. The matter was referred to their medical officer of health, Mr. Harvey, who advised against it. He may have excellent reasons for this advice. Thus, the authority may have no means of isolating cases of infectious diseases when they hear of them, or their sanitary staff may be insufficient to do the work which would become necessary as the result of the increased sources of information as to disease in their midst. But the reasons which have been published in the local press appear to be singularly defective. One is that a subordinate inspector of nuisances would be more useful than the knowledge which the Act would provide; another seems to be that "notification meant quarantine." We assume this to imply that an extra inspector might prevent disease, whereas notification would only give information after its occurrence. There is of course some reason in this; but everyone who has knowledge of a rural district must be aware that there are a number of diseases which are terribly fatal, which no action of a sub-inspector of nuisances can prevent. At all events, Mr. Harvey, knowing what is the state of the sanitary administration of this rural district, declares that notification would hardly be effective, and that it would lead

to considerable expense. The latter plea, which tells also in the direction of there being many cases of disease to report, seems to have carried the day, for the motion to adopt the Act was rejected. Newton Abbot must apparently wait till the Act is made universally applicable.

FRENCH CHOLERA PRECAUTIONS.

THE Prefecture of Police for the Department of the Seine have at last issued precautions against choleraic diarrhœa. As regards the actual sick the advice is given under three headings :—1. As to restoring warmth to the patient. 2. As to combating diarrhœa. 3. As to staying the vomiting. Then follow a number of preventive measures dealing with the water supplies, cleanliness, &c., and with the isolation of the sick, the disinfection of ejecta and of infected localities. Simple medical prescriptions are given in detail, and there is a statement as to the whereabouts of ambulances and appliances for disinfection.

INHALATION OF OXYGEN.

DR. GONZALES ALVAREZ of Madrid, in a paper on "Oxygeno-therapeutics" (*La Independencia Médica*, June 23rd, 1892), states that he has found oxygen inhalations of peculiar value in many of the diseases of childhood. A tube from the washing bottle of the generating apparatus can be placed in close proximity to the child's mouth and nose so that respiration is carried on with air containing a large proportion of oxygen, and of course it does not matter whether the child is awake or asleep. This plan has been found very advantageous in congenital debility, in asphyxia of newborn infants, in early scrofula, and in anæmia arising from any cause. In phthisis in adults Dr. Alvarez appears to have had more success from oxygen inhalations than has fallen to the lot of physicians in this country who have tried them. He mentions, too, a grave case of malarial cachexia in which this treatment was remarkably successful, the extravasation of blood simulating purpura hæmorrhagica with extensive ecchymoses, epistaxis and melæna all passing off. Oxygenated water has also proved useful in the author's hands in many forms of gastric and throat disorder both in children and adults. Most patients cannot take more than a quarter of a glass without experiencing some nausea, but one old lady who suffered from dyspepsia and anæmia took for a considerable period a whole syphonful of the water with every meal, with the best results.

"MEDICAL HERBALISTS."

THE "National Association of Medical Herbalists" held its annual conference recently in Liverpool, and the President delivered an address which is certainly instructive, inasmuch as it gave some indication of "what they were, what they aimed to be, and what they desired to be." They are "medical dissenters" and they are employed by vast numbers as their "family medical advisers." They wish, in most praiseworthy fashion, to protect the people against unlicensed quackery; but *il faut vivre*, and the President has therefore made grave researches into the burning question of the penal clauses of the Apothecaries Act, and he announced, as the result, his belief that they were safe so long as they practised "without the assumption of medical titles." It is truly delightful to hear that we are not on the eve of a general convulsion of the universe; the "medical herbalists" are not advised to petition for the repeal of the old Acts, but they hope to level up until they gain some sort of official recognition. Here the logic becomes a little mixed. They proudly claim to have "erected no exclusive barriers," but they clearly hope to do so some day. They ask for no "selfish monopoly," but they denounce "the quacks who practise under the assumed names of herbalists." They are yet (until they get the official recognition they desire) anxious to confirm the "medical rights" of the people, meaning by this platform-sounding phrase that "whoever they, the people, should call in to attend them should have a legal right to do so, irrespective of school, professional caste, or therapeutic belief." "Medical herbalists" are so often heard of at inquests and in other official inquiries that we gladly welcome the news of their high aims and also most cordially agree with the resolution passed at this conference—viz., that it was not advisable for members to use *medical titles* unless the said titles were English and the members were legally entitled to do so. So long as they continue to "make war upon" and to denounce the fundamental principles of their opponents, the allopaths, it is really difficult to see what medical titles they could desire to assume. If it were not for the sadness of the conditions under which "medical herbalists" are mostly heard of, it would be possible to be vastly amused with this unconscious burlesque of the proceedings of other associations.

SCOTCH SANITARIANS.

THE eighteenth annual Congress of the Sanitary Association of Scotland has been held at Aberdeen. Delegates from upwards of a dozen Scotch towns were present and Dr. E. Duncan of Glasgow was appointed president of the Association. A number of medical men, sanitary inspectors, borough engineers, and surveyors were present. In view of the forthcoming discussion on the Public Health Bill for Scotland, it is very necessary that sanitary reformers should unite and come to a clear understanding as to what they desire. A complete measure is necessary, and the Scotch sanitary authorities should consist of persons technically qualified. Mr. Peter Fyfe of Glasgow, ex-president of the Association, read a long paper on the necessity of reforming the central sanitary administration of Scotland. He protested against the evils of extreme decentralisation and the optional character of sanitary legislation, and thought the direct responsibility should be placed in Imperial hands. Thus at Aberdeen, as well as at the meeting of the British Medical Association, the cry has gone up for a Ministry of Public Health. This coincides also with the unanimous demand of the French Workmen's Sanitary Congress. The day is therefore, perhaps, not far distant when in every civilised country there will be a Ministry of Public Health. In the meanwhile Scotland has not even a Local Government Board such as exists in England, and certainly in many important respects has not shared in the sanitary progress accomplished in England. There can be no doubt that a Scotch Public Health Act is much needed. The Sanitary Association of Scotland are doing good work in pressing this matter forward.

MORE DEATHS FROM GLANDERS.

LAST week we drew attention to the increasing prevalence of glanders and the consequent greater risks of human beings becoming contaminated from diseased horses, giving as some evidence of this the result of a coroner's inquest on the body of a woman who had resided over a stable in which were glandered animals, by which she was infected through using water carried in the stable bucket, it was supposed. On the 1st inst. another inquest was held at Hornsey on the body of a coach-builder who had also succumbed to this loathsome disorder, which he had acquired from contact with a horse he had purchased for a few pounds and which had been allowed to die of glanders. Other cases of death among people from this equine scourge have come to our notice, and considering the extent of the malady among horses, especially in London, it is surprising there are not more coroners' inquests. It is to be apprehended that the disease will become still more extended, for though there is good reason to believe that only a few of the cases occurring are reported by the officials entrusted with the duty of sup-

pressing some of the contagious diseases of animals there are indications that few of the large studs of horses are free from it; while it may be presumed that in the stables of the poorer class of cabmen and carmen infection is rampant. A few days ago one of the largest tramway companies in London was heavily fined for having eight glandered horses at one depôt (a driver in their employment had died from glanders), and an omnibus company has been summoned for the same offence. We have complained of the imperfect measures in force for dealing with the disease and the very lax manner in which they are carried out; and until the authorities are compelled to exhibit more intelligence and energy matters will certainly not mend. All glandered and farcied horses should be at once destroyed, and those animals which have been in contact or cohabiting with them ought to be treated as suspected and isolated from healthy horses. No sales or transfers of horses should be permitted from infected stables or studs, and compulsory notification of the existence of the disease should be imposed on horse-owners and veterinary surgeons. Inspection of infected stables and horses ought also to be carried out by independent authorities, who should also see that contaminated premises are properly cleansed and disinfected. All public water-troughs should be prohibited and horses watered with their own buckets filled from stand-pipes, which might be placed where the troughs now are or where the street water-carts are now replenished. Whatever is done should be done quickly, for the present state of affairs, due more to apathy and indifference than ignorance, is most discreditable and injurious.

INTERCOLONIAL MEDICAL CONGRESS.

THE third session of the Intercolonial Medical Congress of Australasia will, as we have already announced, take place at Sydney, N.S.W., from September 26th to 30th inclusive. The president of the Congress is Dr. P. Sydney Jones, F.R.C.S., and Dr. Thomas Chambers is vice-president. There are five sections—viz.: 1. Medicine, including Pathology and Diseases of the Skin, presided over by Dr. Jas. Robertson of Melbourne. 2. Surgery, including Diseases of the Eye, Ear and Throat, of which the president is not yet announced. 3. Midwifery and Diseases of Women and Children; president, Dr. W. Balls-Headley of Melbourne. 4. Public Health, to include State Medicine, Forensic Medicine, Psychological Medicine and Demography; president, Dr. H. H. Whittell of Adelaide. 5. Anatomy and Physiology; president, Dr. H. Brookes Allen of Melbourne. The honorary secretaries of the Congress are Dr. T. P. Anderson Stuart and Dr. Samuel T. Knaggs.

CHLOROFORM FATALITY AT A DENTAL HOSPITAL.

AT the Coroner's Court, Dale-street, Liverpool, an inquest was held on the body of Sarah Smith, a woman aged thirty-four. The patient had been suffering from toothache and sought advice at the Dental Hospital, Mount Pleasant, where she was seen by the house surgeon, Mr. Gilmore. She was told all her upper teeth and some of the lower were decayed and required removal. An appointment was made for her to attend on the following day, and the house surgeon requested Dr. J. E. Gemmell to attend to administer an anæsthetic. The woman's husband vainly endeavoured to dissuade his wife from the operation, as he considered she was a very delicate woman, upon whom the shock would act prejudicially. He appears, however, not to have communicated his apprehensions to Dr. Gemmell; and as that gentleman, after examining the patient considered her sound, chloroform was administered. Dr. Gemmell in his evidence says he gave the anæsthetic slowly, and when thirty drops had been taken her pulse became weak and she had an epileptic fit, during which the heart failed. A necropsy revealed a flabby heart and enlarged diseased kidneys. We find no mention made of the posture of the patient or whether her clothing was removed. Dr. Gemmell, as an expert and careful anæsthetist, can hardly be made to bear the brunt of this accident, although we think he probably would have acted wisely to have selected another anæsthetic and, if necessary, had the operation divided. The question whether the patient was a known epileptic appears not to have been asked. Possibly we should understand the fit to have been epileptiform.

SIR JOSEPH LISTER.

LAST week this most distinguished surgeon—whose name is synonymous with modern advance in scientific surgery, and who, by his observations and discoveries in the application of the antiseptic treatment of wounds, has added a lustre to British surgery which will never die—closed his career as a clinical lecturer in King's College. According to the regulations of that institution a professor must, except at the special request of the Council, on attaining the age of sixty-five, resign his professorial duties, although there is no apparent diminution of his mental or physical energy. Sir Joseph Lister seems as active and able now as when, twenty-three years ago, in the midst of his early experiments on antiseptic dressings, he resigned his chair of Systematic Surgery in Glasgow to become the successor of Syme in the Clinical Surgery chair of Edinburgh University. The authorities of King's College, recognising the eminence and great ability of this distinguished surgeon, have so far relaxed the rules of the institution that they have determined to retain his services in the wards of the hospital for another year, his duties as a clinical teacher, however, being transferred to younger hands. His last lecture consisted of an excellent *résumé* of the present aspect of the essential parts of the antiseptic treatment of wounds. At the conclusion he spoke with some degree of sadness of the termination of his course as a lecturer, and expressed to the students the hope that in the practice of their noble profession their main object would be to promote the good of their fellow men—a principle which Sir Joseph Lister has ever had present to his mind during his long and brilliant career.

THE PROGRESS OF CHOLERA.

WHILST cholera continues to make advances in Eastern Europe there is reason to believe that it is still confined to Russian territory. The outbreaks in Galicia and in Roumania are not only denied, but no further intelligence of an incriminatory character has followed the original statement as to its existence in these countries. Warsaw may or may not be a seat of the disease, but otherwise even Poland seems as yet to be free. Still there is a steadily increasing diffusion of the disease in South-Eastern and in Eastern Russia, the tendency of the diffusion being more and more in the direction of Central Russia. In the Astrakan district and south of the Caucasus some diminution in severity and in the number of those attacked is apparent; but, on the other hand, a very severe outbreak is in progress in the towns bordering on the north-eastern portion of the Sea of Azov and on the river Don, and a number of fairly central provinces, such as Poltava, Voroniej, Tambov, Riazan, Orel and Moscow have been invaded. Western Russia as yet remains free. In the Don territory the Government of Rostoff is severely affected, and it is stated that in the last day of July there were no less than 1055 attacks and 447 deaths. The epidemic in the vicinity of Paris shows signs of abatement. Both in Paris, at St. Denis, at Gonesse and at Clichy fresh and fatal attacks are still occurring, but in these places and at Donneval the tendency seems to be towards a diminution of the outbreak. In Persia the epidemic has markedly subsided at and near Meshed. But

cases have occurred at Yezd and a smart outbreak has taken place on and near the south shore of the Caspian Sea, where Resht, Enzeli, Lahijan and Mengil remain seats of the disease.

HEALTH OF MR. GLADSTONE.

WE understand that the illness from which Mr. Gladstone has been suffering during the past week was a feverish bronchial catarrh. On Thursday he was sufficiently recovered to be able to be present in the House of Commons to second the motion for the appointment of Mr. Peel as Speaker of the House.

THE OPENING OF PARLIAMENT.

THE thirteenth Parliament of Queen Victoria was opened on Thursday by Royal Commission. The opening ceremony took place as usual in the House of Lords, where there was a large attendance both of members and of the general public. The proceedings, which lasted only a few minutes, were entirely formal. In the House of Commons the Right Hon. Arthur W. Peel was nominated Speaker for the fourth time. The nomination was made by Sir Matthew White-Ridley and seconded by Mr. Gladstone, while words of congratulation were offered by Mr. Balfour.

GRADUATION DAY AT EDINBURGH.

"QUÆ regio in terris nostri non plena laboris?" was never more justly the boast of the Edinburgh School than on Monday last, when no fewer than 263 students in medicine, representing every quarter of the habitable globe, closed their academic curriculum, duly qualified to practise throughout an empire on which the sun never sets. The influx of students to her medical class-rooms, which received so great an impetus since the memorable tercentenary celebration of 1884, reached its height two or three years ago, and an unprecedentedly small number of students were registered at the opening of last winter session. So far as can be foreseen the causes of this decline are not likely to be weakened in force. The efficiency of the metropolitan and provincial schools will probably increase. Many of the teaching and examining bodies of these qualifying centres are Edinburgh men, but it is no consolation to that *alma mater* any more than it was to the mythical deity—that it is her own children who devour her. The resuscitated activity of the older English universities is another cause which impairs the prestige of Edinburgh on the side where she used to be exceptionally strong. As Sir G. M. Humphry indicated in a recent paper the preliminary training that can be offered by Cambridge, and, we may add, by Oxford, nowadays is not to be surpassed by any seat of learning north of the Tweed. Nay, we believe the thorough and systematic grounding to be obtained at these schools is, thanks to their tradition of *multum non multa*, intensive rather than extensive culture—a distinct point in their favour, which is gradually becoming appreciated by an ever-increasing public. The formation of a young and energetic university in the north of England and the vigour displayed by the authorities of the University of Durham have also begun to tell their tale. With such formidable competition in the early stage of professional study, Edinburgh presents no countervailing advantages in the opportunities afforded by her cliniques, for the number of beds at the disposal of teachers however eminent is unfortunately limited. Practical medicine will seek its qualifying experience rather in the metropolitan and great industrial centres than in comparatively stationary provincial capitals whose population does not multiply in equal ratio.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Strassman will undertake the duties of the chair of Forensic Medicine during the next semester, no appointment having been made since Professor Liman's death. Dr. Siemerling of the Charité has been promoted to an extraordinary professorship of Mental Diseases.

Bern.—Dr. von Speyer has been appointed Extraordinary Professor of Mental Diseases.—Dr. A. Santi has been recognised as *privat-docent* in Dermatology and Syphilis.

Buda-Pesth.—Dr. Ernö Emil Moravcsik has been promoted to an Extraordinary Professorship of Forensic Medicine.

Cordova (Argentina).—Drs. Pinero, Mariño and Freyre have been appointed professors.

Gratz.—Dr. H. Buchner of Munich has declined the offer of the new Professorship of Hygiene.

Kazan.—Dr. Fenomenoff, Extraordinary Professor of Gynæcology and Midwifery, has been promoted to an Ordinary Professorship.

Kiel.—Dr. Georg Hoppe-Seyler has been appointed to the chair of Medicine.

Montpellier.—The chair of Medical Chemistry has been declared vacant.

St. Petersburg (Medical Academy).—The principal, Professor Pashutin, having gone abroad, his place has been taken by Professor N. P. Ivanovski. The selection made by the professorial senate of Professor Bellin of Kharkoff for the chair of Forensic Medicine has not been approved by the Government, who have appointed Dr. N. P. Ivanovski, the acting principal, who has hitherto held the chair of Pathological Anatomy, which chair has been conferred on Professor Vinogradoff of Tomsk.—Dr. Trapesnikoff has been recognised as *privat-docent* in Syphilography in the Military Medical Academy.

Tomsk.—Dr. Repreff has been promoted to the Ordinary Professorship of General Pathology; Dr. Obraztsoff of Kazan has been appointed Extraordinary Professor of Dermatology and Syphilis.

Vienna.—The professorial senate have unanimously recommended Dr. Richard Freiherr von Krafft-Ebing *unico loco* as successor to the late Professor Meynert in the professorship attached to the First Psychiatric Clinic in the General Hospital.

Warsaw.—Dr. Tauber, Professor of Operative Surgery and Topographical Anatomy, who was deputed by the Russian Government to report upon the English and Scotch Schools of Surgery (*see* THE LANCET, vol. i., 1890, p. 857), has been appointed to the chair of Clinical Surgery.—Dr. Vassilieff has been recognised as *privat-docent* in Surgical Pathology and Dr. Sienez as *privat-docent* in Special Pathology and Therapeutics.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Valerian Podwysotski, Professor of Pharmacy and Pharmacognosis in the University of Kazan, at the age of sixty-nine. The deceased professor was originally a lawyer and as such held various official positions; and it was not until he was nearly fifty years of age that he began the study of medicine at Dorpat, where, after taking his doctor's degree, he became assistant in the Pharmacological Institute and *privat-docent* in the University. From thence he was called to the professorship at Kazan. He wrote a good deal in the medical journals on various topics connected with pharmacognosis, amongst which may be mentioned emetin and podophyllin.—Dr. F. L. Thuran, formerly Inspector of the Odessa Sanitary Council, at the age of eighty-five.—Dr. G. W. J. von Düben, formerly Professor of Anatomy in the Caroline Institute, Stockholm, in his seventieth year. After completing his medical studies at Lund in 1844 he was appointed by the Academy of

Sciences to the *Prinz Karl* during an expedition to Africa, India and China. After his return he became Professor—first of Pathological and afterwards of Normal Anatomy—at the Caroline Institute. His chief work is on Lapland and the Lapps. He was also for many years editor of the chief Swedish medical journal, *Hygeia*.—Dr. Hermann von Meyer, formerly Professor of Anatomy in Zurich, at the age of seventy-seven.

WE have to announce the death on the 2nd inst. of a well-known surgeon, Mr. Samuel Armstrong Lane, at the great age of ninety. Mr. Lane was for many years lecturer at the Grosvenor Place School of Anatomy and was elected surgeon to St. Mary's Hospital on its foundation in 1852. It was mainly due to him that the Medical School attached to St. Mary's Hospital was opened in 1854 and to him must be largely attributed the success which it has attained. Mr. Lane was for many years a member of the Council and of the Court of Examiners of the Royal College of Surgeons. He had retired from practice for some years past but to the last he took the greatest interest in all matters relating to his profession. Those who knew "Honest Sam," as he was called by his contemporaries, will remember him as an upright, kind and sincere friend, a sound, thoughtful surgeon, and a practical and earnest teacher.

WE regret that pressure on our space prevents us giving an account of the first general meeting of the British Association held in the hall of the United Presbyterian Synod, Edinburgh. The President, Sir A. Geikie, was introduced by Dr. Huggins, and delivered the presidential address on the subject of the origin of the earth. He referred in this connexion to the views of James Hutton communicated to the Royal Society in 1785, and which Playfair had succeeded in popularising. The views of Werner, of Sir James Hall and Lord Kelvin were subsequently detailed. The address was listened to with the deepest attention, and it was generally regarded as one of the most interesting discourses on geology ever delivered. Lord Kelvin moved, and Lord Provost Russell seconded, a vote of thanks for the address.

ON Capping Day, August 1st, 169 new graduates were enrolled on the scroll of the Edinburgh University. Dr. Pringle presided at the dinner of the Edinburgh University Club at the Holborn Restaurant in the evening. The attendance, considering the time of year, was large. Dr. Pringle made an able speech on the University and on the club itself. The toast of his health was proposed by Sir Edward Sieveking, and heartily responded to. The music and other entertainments of the evening were exceptionally good.

OWING to the spread of the cholera epidemic, an order has been issued from the Ministry of Education of St. Petersburg prohibiting the resumption of examinations in all educational establishments until Sept. 1st next. Also the lectures to medical students in their last term are not to be continued until Nov. 1st, so that students may be free to offer their services in the cholera districts.

THE following names have been added to the list of honorary presidents for the International Congress of Obstetrics and Gynæcology:—England: Drs. Robert Barnes and Thomas Keith, Mr. Lawson Tait and Professor John Wallace. Scotland: Drs. Murdoch Cameron and Berry Hart. Ireland: Drs. Arthur V. Macan and More Madden.

PROFESSOR RUDOLF VIRCHOW was elected Rector of the University of Berlin on Wednesday evening, August 3rd.

THE Queen has been pleased to appoint Sir William Stokes, F.R.C.S.I., Professor of Surgery, Royal College of Surgeons Ireland, to be Surgeon in Ordinary to Her Majesty in Ireland, in the room of William Colles, Esq., M.D., deceased.

THE John Lucas Walker scholarship in Pathology at Cambridge University will shortly become vacant by the election of Mr. Kanthack to the medical tutorship of the University College Medical School at Liverpool.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT NOTTINGHAM.

IN the Obstetrical Section on Friday, the 29th ult., Mr. Knowsley Thornton opened a discussion on the Treatment of Uterine Fibroid Tumours. He held that the treatment of these depended on their structure, situation and symptoms. If the tumour be small it was absolutely unnecessary even to tell the patient of its existence, as her peace of mind was disturbed. He considered that the treatment by electricity was highly unsatisfactory. In the more severe cases he advocated the operations of hysterectomy or oöphorectomy, and only decided when the abdominal cavity had been opened. Dr. Murphy of Sunderland was in complete accord with Mr. Thornton's statement, but thought that he underrated enucleation per vagina, and related an interesting case where four tumours had been removed from the same woman during a period of five years. Mr. Lawson Tait also agreed with Mr. Thornton's conclusions, but was surprised that he had been so lenient on the electrical treatment. Dr. Horrocks stated that he had obtained very satisfactory results from the electrical treatment and had never seen a death from hæmorrhage in a case of fibroid tumour, and believed the mortality of the operation to be higher than that from the morbid condition. Drs. Tidy, M'Clure, Leith Napier, Michie and Bishop joined in the discussion.

IN the Public Health Section Dr. Tatham of Manchester, the senior medical officer of health present, presided in the absence of Sir Walter Foster, M.P. Dr. Willoughby read a paper on the Nomenclature of Notifiable Diseases. He very justly condemned the tendency to disguise the truth by speaking of "varicella" instead of "small-pox," of "scarlatina" instead of "scarlet fever," "diphtheritic throat" or "croup" instead of "diphtheria," and "septicæmia" instead of "puerperal fever." The result of so doing was that strict isolation and efficient disinfection were neglected. He demanded that definitions should be more strictly applied and suggested that measles be included among the diseases for notification. Dr. Groves said that when certificates were given for the benefit of the Government departments these departments ought to pay for them. Dr. Boobbyer testified to the good results from notification and isolation, and Dr. Tew of Nottingham pointed out that in rural districts the medical officers were practically required to assist in the diagnosis of all doubtful infectious cases.

THE interest taken in the question of the admission of women to the membership of the Association was evidenced by the large attendance at the extraordinary general meeting held on the 28th ult. The tone of the speeches of the mover of the resolution (Dr. Galton) to expunge the words from Article 4 of the Association declaring females ineligible and the consequent alteration in the by-laws, and of Mrs. Garret Anderson, who seconded the resolution, was moderate and

their arguments well sustained. We have no doubt that the meeting, in the decisive vote it passed in favour of the resolution, was influenced by the temperate manner in which the subject was brought forward, and although Mr. Lawson Tait hinted at the possibility of the decision being reversed at the confirmatory meeting which is appointed to be held on the 24th inst., we do not imagine that this will happen.

DR. F. A. DIXEY of Oxford read a paper on the Influenza Epidemic of 1891–92 and connected the epidemics with the winter season and special meteorological conditions; while, on the other hand, Dr. Whitelegge argued that the weather had no influence on the epidemic.

THE discussion in the Psychology Section on insanity as a plea for divorce, raised by Dr. Weatherly, although brief, was of importance on account of the fairly unanimous agreement in favour of the plea being sustained in cases of incurable insanity, and after a specified period of time had elapsed since either party had to be placed under legal care and control. Dr. Weatherly in his remarks placed this period at seven years; but Mr. Stewart considered this too short and that it should be at least ten years. The same speaker also pointed out that the legal and medical definitions of insanity were not in accord. It may be noted, however, that such experienced alienists as Dr. Hack Tuke and Dr. Rayner expressed their dissent from Dr. Weatherly's views.

THE outspoken remarks of Professor Gairdner in the Therapeutic Section upon the manner in which new remedies are introduced to the notice of the profession, and the total lack of machinery for scientifically testing their value, will be endorsed by all who feel how much the true interests of the medical art are made to suffer from this growing evil. It is much to be regretted that he should have felt it incumbent on him to resign his position as President of the Therapeutic Committee, but he took the opportunity of the sectional meeting to explain the grounds on which he had acted. He admitted that the main reason for his withdrawal was that the policy which he had advocated—namely, that of obtaining satisfactory inquiries on a large scale upon the action of remedial agents—had not been seconded by the branches; whilst his proposed establishment of local committees of inquiry was frustrated partly by lack of publicity. The reason for this involved considerations of policy outside those of pure scientific inquiry.

THE social functions in connexion with the meeting at Nottingham comprised three garden-parties, two conversaziones, the annual dinner, and an "at home." A brilliant assembly of the members of the Association and townspeople of Nottingham took part in the conversazione at the University College, given by the Mayor and Corporation. The Association was also entertained by Mr. Leaver, J.P., and Mrs. Leaver at the Hermitage. During the week excursions took place to Buxton and to Lincoln, where Viscount Oxenbridge heartily welcomed the party. At Denton Manor Sir William Welby acted with similar hospitality. Belvoir Castle was visited, and the members were hospitably entertained by the Duke of Portland at Welbeck Abbey and at Haddon Hall by the Duke of Devonshire.

THE annual breakfast given by the National Temperance League to members of the Association took place on the 28th ult. in the Albert Hall and was well attended. The chair was taken by Mr. T. E. Ellis, M.P., and speeches were delivered by the Chairman, Professor Horsley, Mr. Pearce Gould, Dr. Norman Kerr, Dr. M. Cameron and Dr. Cohen.

THE GENERAL MEETINGS.

WE resume our report of the proceedings of the British Medical Association meeting held at Nottingham last week.

EXTRAORDINARY GENERAL MEETING.

Admission of Women to the Association.

At an extraordinary general meeting of the Association held in the Albert Hall, Nottingham, the question of the admission of women to the Association as members was considered. There was a large attendance, and the tone and feeling of the meeting were very pronouncedly in favour of the proposal.

Dr. S. H GALTON moved that Article 4 of the Articles of Association be altered by expunging the words "No female shall be eligible for election as a member of the Association." Dr. Galton said that out of 140 medical ladies 22 were graduates of the London University. For eighteen years they had borne with this disability. He appealed to them to join with him in removing it from their articles, for it was a blot upon the fair fame of the Association, it was a stain left from the high tide of rank prejudice, and he hoped that the righteousness of Nottingham would wipe out the injustice of Bath.

The resolution was carried *nem. con.*

We understand that an extraordinary general meeting will be held on Wednesday, August 24th, at 2 o'clock, at the offices of the Association, to consider and, if thought necessary, to confirm this resolution.

THIRD GENERAL MEETING.

Address in Surgery.

At the third general meeting Dr. W. H. HINGSTON, of Montreal, delivered his address on Surgery, which was published in our last week's impression. The address was well delivered and well received.

At its conclusion Mr. LAWSON TAIT (Birmingham), in moving a vote of thanks to Professor Hingston, said no better example of the progress of surgery in Canada could have been presented to them than in the person of Professor Hingston. The professional work of the Dominion was quite equal to anything in Europe.

Mr. JOHN CROFT seconded.

The Profession and the Local Government Board.

Mr. D. B. BALDING moved, in accordance with notice, "That, in the opinion of this Association, the decision of the Local Government Board in reference to the case of the late Mr. Walters of Cheltenham was unjustifiably severe, and that it is incumbent on this Association to use its best endeavours to procure a reconsideration of the case."

After conversation a suggestion to refer the matter to the Parliamentary Committee was agreed to.

The meeting afterwards adjourned.

FOURTH GENERAL MEETING.

The Address on Bacteriology.

The interest of the annual meeting culminated in the able and eloquent address which was delivered by Dr. German Sims Woodhead. At its conclusion—

Surgeon-Colonel HARVEY moved that the best thanks of the Association be given to Dr. Sims Woodhead for his address, which was full of interesting information. Bacteriology had so developed that it required experiments to pursue it. The great *raison d'être* of the profession was to heal the sick, but the love of science would not give a man food and raiment or help him to meet the exigencies of life. The man, he said, who teaches the bacillus should live by the bacillus.

Dr. EDDISON (Leeds), in seconding, said this was the first occasion on which an address on this subject had been delivered at this Association. What struck him about Dr. Woodhead's address was the way in which he constantly emphasised, not what he had done, but what other men had done.

Experiments on Living Animals.

Mr. HUTCHINSON then moved a resolution in the following terms: "That this general meeting of the British Association records its opinion that the results of experiments on living animals have been of inestimable service to man and to the lower animals, and that the continuance and extension of such investigation is essential to the progress of knowledge, the relief of suffering, and the saving of life." He said it was scarcely necessary to move a resolution which he believed to be a simple

truism. He thought that the agitation which prevailed some twenty years ago against vivisection was rapidly and steadily dying out. Most of them had been brought into contact here and there with little attempts of vexatious opposition, which sometimes fell with peculiar severity upon one or two hapless individuals. There was about to be held a congress of clergymen at which this subject would be brought forward, and medical men had been invited to take part in the discussion. He had not the slightest objection to clergymen discussing that question. Some of the leading members of the profession had been invited to take part in the discussion, but they had declined. Sir James Paget had declined, and so had Sir George Humphry, on the ground that the discussion was not one in which those educated in medical matters could meet clergymen on common ground. They were right; they did not object to its being discussed, but it was useless to talk to people, however well informed on other matters, on a subject of which they could have but little knowledge. The British Medical Association, he hoped, representative as it was of all branches of the profession, would pass this resolution unanimously. They were not personally engaged in this work, but they could understand what valuable results were obtained from it. It was a matter of duty and of justice that the Association should stand by those who had performed experiments and who had thereby incurred considerable odium, and perhaps in some instances even damaged their reputation and success in life, in consequence of their appearing in public as advocates of this method of investigation. He was one who for twenty years past had never made any experiment on living animals. He had nothing to do with that department of investigation and he spoke for the large majority of those present at this meeting; but it would be a matter of cowardice if they stood aside and did not back up thoroughly those who were engaged in the pursuit of the clinical and particular aspects of the profession, or if they failed to express their deep gratitude to those investigators. As practical men the profession availed themselves of their discoveries. They applied their knowledge, and therefore they were bound to stand shoulder to shoulder with them. They were not only doing that which is not cruel, but they were doing their duty and conferring inestimable services upon the progress of science. They claimed to go before the laity and say the medical profession is a profession of humane men to whom every form of cruelty is detestable. We are fairly well informed as to the scientific aspects of this question. It is, indeed, part of our duty to be informed; and it is only common sense that you, the laity, who do not possess the especial information that we do, should listen to us. He did not object to legitimate forms of restriction. Indeed the medical profession was glad, if there should be some erratic individuals in whom the sentiment of humanity was lost in a matter of this kind, to have judicious State legislation. In this there was no cruelty, because nothing came under that definition which had for its object the diminution of suffering. Sir William Gull was asked by a lady if he did not consider experiments on animals as cruel. "Madam," he said, "there is no cruelty comparable to ignorance." Of course there would be in the medical profession a very small minority who would object.

The resolution was carried unanimously. This concluded the business of the general meetings.

THE SECTIONS.

MEDICINE.

Ascites.

Dr. W. J. TYSON read a paper on Ascites. "In reading over the subject of ascites in various text-books there is an absence of a good description of those cases which for a better name may be called 'simple ascites.' There always will be, and I think there ought to be, an objection made to the word 'ascites' without an accompanying distinctive adjective designating the cause of the ascites. In the same way one should object to the word 'meningitis' or 'peritonitis' as a final diagnosis. This is not at all a matter of sentiment, for the constant use of the above words as indicating a disease instead of a symptom lead some men to be satisfied with this, and hence in many cases the real cause of the disease remains untreated. The class of case to which I wish to call the attention of the members is that in which no cause can be discovered to account for the ascites, and yet with ordinary treatment of diuretics and aperients, with tapping if necessary, recovery takes place. Two cases lately under my care at the Victoria Hospital, Folkestone, will illustrate the class to which I am referring. A. B——, a boy aged sixteen, was admitted on July 6th, 1891, with a good family history; he was quite well until his present illness, which commenced two months back with enlargement of the abdomen, which had been gradually increasing. On admission there was very considerable ascites, the abdomen measuring at umbilicus thirty-one inches in circumference, and between the umbilicus and ensiform cartilage thirty-three inches. There was no valvular disease, but the heart's apex was pushed up, beating opposite the nipple. There were signs of pleuritic effusion in both pleural cavities as high as the angles of the scapulæ. There was no œdema in the legs or scrotum. The urine was non-albuminous, pale, with a specific gravity of 1006. The treatment adopted was the outward application of linimentum hydrargyri, whilst internally the patient was given tincture of digitalis with acetate of potassium; he was kept in bed. After a month all the ascitic fluid had disappeared and he became apparently quite well and has remained so since. The second case was that of a woman aged twenty-two, who had been married for six years, and had never had any children or any miscarriages. Her family history is a good one; her father, mother, two brothers and three sisters are all living and well. In 1884 she had typhoid fever, at which time the abdomen swelled, but went down again and, she stated, it has remained more or less swollen up to the present time of admission into Victoria Hospital on May 3rd, 1892. On admission the abdomen measured in circumference at the umbilicus thirty-seven inches and a half and it was very much distended. No cardiac, lung, or kidney disease could be discovered. On account of the great distress in breathing it was necessary to use paracentesis on May 10th, when twenty-two pints of ascitic fluid were drawn off. After the operation the abdomen was carefully examined for any enlargement &c., but nothing was found to account in any way for the ascites. The circumference was now twenty-nine inches at the umbilicus and has remained the same up to the present time. She was treated from the commencement of her stay in the hospital with digitalis, iodide of potassium and sulphate of magnesia, and Addison's pills night and morning, but with no result until after the tapping, when the urine passed, and was rapidly increased in quantity. The two foregoing cases are only examples of a large number in which the ordinary explanations of ascites are absent, for there is no cardiac, pulmonary, renal or hepatic disease present which would account for the ascites—not that we must forget that cases of ascites, when due to the foregoing causes, frequently get well, for I feel sure that our hospital experience often is fallacious as regards prognosis, inasmuch as the disease upon which the ascites depends occurs in subjects of much lower vitality, and therefore less under the influence of treatment, than those met with in private practice. I know of two cases of ascites, one due to kidney disease, the other due to cardiac disease, in which immense distension of the abdomen existed for some weeks. In the first there has been no return of the dropsy for six years, although a large quantity of albumen is still passed; and in the second there has been no return for a twelvemonth. But in the so-called simple cases, to which I am particularly referring, the prognosis is very hopeful. Of course there is a cause to account for the ascites in the cases, but it is very difficult to find. Some of these, no doubt, are tuberculous in origin, others perhaps are due to that most convenient of causes—namely, exposure to cold. Still the important fact remains that there are a fair number of cases of ascites to which no cause can be assigned and which on treatment get perfectly well."

SURGERY.

Discussion on the Surgery of the Liver and the Gall-bladder.

The discussion in the Surgical Section of this subject took place on Thursday morning and was opened by Mr. Mayo Robson. He said his conclusions were based on a personal experience of seventy cases of operation and upon many others in which no operation had been performed. He divided his paper in two sections, the first dealing with those injuries and diseases of the liver amenable to surgical treatment, and the second with gall-stones. Injuries of the liver attended by free and dangerous hæmorrhage can be successfully treated by exposing the injury either through an already existing wound or by an abdominal incision and plugging the liver and wound with iodoform gauze—a drainage-tube should

be afterwards inserted and the external wound closed. Abscess of the liver is a more common disorder than is generally believed. He had met with several cases and had dealt with some of them by operation. The diagnosis of this condition was always difficult and sometimes impossible until the abdomen had been opened. When the abscess has been found by an exploring needle the abdomen should be opened and the liver carefully sewn to the parietal peritoneum before opening the abscess cavity. In some cases this is impracticable, and then the cavity of the abscess should be cleaned carefully and thoroughly packed with iodoform gauze through the open external wound. Mr. Mayo Robson showed a simple and rapid way by which a drainage-tube can be introduced into an abscess of the liver where a patient is too ill to allow of the more systematically arranged operation. Free drainage is the real secret of success in these cases. Abscesses of the liver which have opened into the pleura, lung, pericardium &c. should be treated at their source by hepatotomy. A subphrenic abscess may be best opened through a lower intercostal space. Hydatid cysts are most safely dealt with by hepatotomy. Statistics prove that this operation gives better ultimate results than puncture. Other varieties of cysts are met with—examples of which were given in detail and the nature of some of which it is difficult to understand. *Excision* of a part of the liver has been successfully practised and may be called for in a limited number of cases. Mr. Robson thought that the elastic ligature would be found of service in this operation. He approved of the principle of exploratory working in all doubtful cases, and referred to some in which tumours, solid in their nature and malignant in their naked-eye appearances, have entirely disappeared after this procedure. Mr. Robson had operated in more than fifty cases of cholelithiasis with a mortality of three cases only, and each of these had been complicated by malignant disease. None of his simple cholecystotomies had died at all. He referred at length to the many disorders for which gall-stones are mistaken and gave examples of such cases which had been under his care. It was of first importance to locate the exact presence of gall-stones, and he thought in most cases this could be done. He referred to the occasional occurrence of pain in the left side and in the left scapula, and explained this fact by the presence of adhesions to the stomach. Sounding for gall-stones by acupuncture needles he regarded as dangerous, and aspiration of a distended gall merely for purposes of investigation was not to be commended. He referred to the free bleeding, which is often seen during operations on jaundiced cases, and recommended the previous administration of chloride of calcium as an internal hæmostatic. With regard to the operation of cholecystotomy, he thought the operation in which the opening in the gall-bladder was sewn to the external wound was better than the ideal operation, in which the opening in the bladder was sewn up and the whole returned into the peritoneal cavity. When it becomes necessary to open the cystic duct, suture of the opening to the parietal peritoneum or the introduction of a large drainage-tube are the best procedures. He does not recommend supra-pubic drainage, as advocated by Mr. Knowsley Thornton. Gall-stones in the common duct may be crushed with fingers or forceps and left to pass into the duodenum. Cholecystectomy is occasionally a necessary operation, but should not be performed unless absolutely indicated, and when jaundice is present it should never be performed. Cholecystenterostomy has been successful in his hands and occasionally called for. It is best made into the duodenum and by means of a new form of decalcified "bobbin," which he described.

Mr. LAWSON TAIT agreed entirely with the views enunciated by the previous speaker, many of which were confirmatory of views advanced by himself a few years ago. Difficulties of diagnosis are constantly encountered and stand in the way of treatment. Hepatotomy is a safe operation if performed early enough. Delay gives the operation its dangers. Resection for cancer had no sympathy from him. In his operations for gall-stones death had only occurred in cases where cancer was also present. Gall-stones do not form again after operation, and cholecystectotomy is therefore rarely necessary. He was glad that Mr. Robson had confirmed a previous statement of his (Mr. Tait's) that certain tumours of the liver which looked like cancer occasionally disappeared in a mysterious way after a simple exploratory operation. Mr. Tait presented a table of cases which showed twenty-one exploratory incisions with four deaths, eighteen hepatotomies with two deaths, and seventy-one cholecystotomies with four deaths.

Mr. JORDAN LLOYD called attention to the importance of diagnosing before operation, not only the presence, but the exact locality of gall-stones, for the reason that the dangers of cholecystotomy depend more upon the position than the number, size or chemical composition of the stones. Cholecystotomy is a safe operation so long as the calculi can be removed through the opening made in the gall-bladder; but if the common duct has to be opened because of the position of the stone and the contracted condition of the gall-bladder the risks of the operation are enormously increased. Such a diagnosis can usually be arrived at by bearing in mind, firstly, that hepatic colic without subsequent jaundice and without a tumour, as a rule, locates a stone strictly within the gall-bladder; secondly, that hepatic colic, without subsequent jaundice, but with a subsequent tremor, locates a stone within or at the mouth of the cystic duct; thirdly, that the hepatic colic, with ague-like paroxysms, rigor, high temperature and sweating, followed by jaundice, locates a stone in the common duct. If a tumour be not present the gall-bladder is probably puckered up by chronic inflammatory changes. Persistent jaundice, generally, is the equivalent of malignancy.

Mr. CHICKEN thought that in abscess of the liver the method of wound dressing was of great importance. He said that most liver abscesses were divided up by soft interlacing trabecule, which required thoroughly breaking down before free drainage could be secured.

The PRESIDENT said that these cases are, as a rule, brought too late under the surgeon's notice. He thought that the present satisfactory results should encourage physicians and practitioners to call in the aid of the surgeon at an earlier period.

Dr. GEORGE HARLEY said that physicians and surgeons had a common object—to cure disease; and in liver disorders each of them looked at their cases from a different standpoint. Surgical operation should be the very last measure to be adopted. He believed that the large majority of liver cancers were secondary to gall-stones.

Mr. BRUCE CLARKE referred to the two methods of treating hydatids by tapping and by drainage. He called attention to the fact, too, that hydatid cysts could be shelled out of the liver substance if they had not been left long enough to form strong adhesions. The early operations in these cases would always be the more satisfactory if only for this reason.

Mr. F. EVE referred to a case of actinomycosis of the liver which he had diagnosed during life and which might have been removed by operation. He referred also to a curious form of loculated abscesses which he had seen, and suggested that these tumours which disappeared after simple exploratory operations might have been nævi.

Mr. MAYO ROBSON, in replying, thanked the members for their patient hearing. He said that when an incised duct cannot be closed by suture drainage with a large tube will suffice. The mortality of all cholecystotomies ought to be less than 5 per cent. The tumours which disappeared could not be nævi for the reason that they were quite hard, like scirrhus when examined with a finger or a needle.

The discussion then terminated.

A paper was read by Mr. EWENS on Overgrowth of the Inner Tuberosities of the Tibia as a cause of Genu Valgum independent of Elongated Inner Condyle of the Femur, illustrated by photographs. Having alluded to the silence of some eminent surgical authorities on this subject, and the slight reference as regards the distinction between this affection and other forms of genu valgum made by other writers, Mr. Ewens directed attention to two cases by which his observations were illustrated, in which the inner tuberosities of the tibia were enlarged and elongated without any corresponding change in the inner condyle of the femur.

Mr. E. LUKE FREER read a paper on the Treatment of Scoliosis. He stated that in his opinion the two chief causes of scoliosis were: bad positions acquired at school or work during childhood and adolescence, and muscular debility. In Birmingham he found that a large number of cases occurred among the working classes, and to these cases he gave the name of "Trade Curvatures." He held very strongly that when once a curvature was developed to the extent of bony alteration no cure could be effected, although the curvature could be prevented from getting worse. The principles of treatment which he adopted were those enunciated by Dr. Roth, consisting in the practice of what might be called medical gymnastics. This treatment, which he had for years adopted, could not be carried out satisfactorily in Birmingham, in consequence of the neces-

sarily imperfect hygienic conditions of a large town, but the very best results were obtained from it when practised at Llandudno, where he now resided. The treatment consisted in an improvement of the general health in the correction of bad postural positions and in the re-education of weakened muscles by systematic exercises. Mr. Freer gave a detailed account of the exact course of muscular training through which he caused his patients to pass.

OBSTETRICS.

Post-partum Hæmorrhage.

Dr. HERMAN, on opening a discussion on the subject of post-partum hæmorrhage, emphasised the importance of compression of vessels as the rational means of stopping hæmorrhage. For prevention of hæmorrhage the main points were (1) avoidance of delivery when the uterus was inactive; (2) careful supervision of the third stage of labour. In treatment he advised (1) kneading by the abdominal hand. If this did not succeed, (2) putting the hand in the uterus to make sure that it was empty; (3) washing out the uterus with hot water. If these means failed, persistent bi-manual compression of the uterus. The application of cold he considered a temporary substitute for kneading. Putting the child to the breast was a useful and harmless adjuvant. The injection of perchloride of iron brought with it danger of (1) sudden death from distension of the uterus, (2) embolism, (3) peritonitis, (4) septicæmia. It left the uterus filled with clot. Although its effect was to check hæmorrhage, yet it sometimes failed. It was therefore neither safe nor certain. Packing the uterus with gauze sometimes failed, brought with it danger of entrance of air into veins, and the uterus could not properly contract when filled with gauze.

Dr. JOHN BYERS read a paper discussing the question, "Does Chloroform promote Post-partum Hæmorrhage?" In this paper the author, while pointing out the great advantage of chloroform in obstetric practice, draws attention to the fact that it is not so frequently employed by accoucheurs as might have been thought to be the case. In explanation of this circumstance two reasons are assigned and discussed:—1. The deterring effect produced on the profession by the alarming and disastrous results which have too often followed the use of chloroform in surgical practice. 2. Its alleged effect in promoting post-partum hæmorrhage. In support of this view he discusses the two arguments usually put forward—(*a*) The teaching of authorities; (*b*) personal experience. In reference to (*a*) he shows that there is no unanimity amongst teachers on this point, and hence the question can only be settled by (*b*) personal observation and experience. He shows the fallacy of the argument that, because chloroform was given and hæmorrhage followed, it was cause and effect—the *post hoc ergo propter hoc* style of reasoning—and argues that the great majority of cases of alleged flooding after delivery occurring when the anæsthetic was used can be explained as being due, not to the chloroform, but to rapid delivery and to a want of proper management of the third stage of labour. Those who take the other view must, when they report cases, give all the details of them—such as the age of the patient, the number of her previous confinements, the extent to which, and the method by which, the anæsthetic was given, the cause for which it was employed and the plan of delivery and the method employed in the management of the third stage of labour. In conclusion the author gives his own experience of an extensive and increasing employment of chloroform in obstetrics, which warrants him in stating that this anæsthetic has no effect in causing post-partum hæmorrhage, provided that in all cases care is taken not to effect delivery too rapidly and also to manage the third stage of labour according to modern teaching.

In the discussion which followed Dr. WALTER (Manchester) had much pleasure in hearing Dr. Herman's paper, and as so many members wished to take part in the discussion he would confine his remarks to three of the methods of treatment referred to by Dr. Herman in dealing with post-partum hæmorrhage arising from inertia of the uterus. 1. The intra-uterine injections of hot water was a mode of treatment which he had frequently tried; and whilst in many cases it would be found to act efficiently yet it was not always reliable. Much, however, depended upon exactness in the temperature used, as had been amply proved by the experiments of Max Rünge on animals, which showed that uterine contractions followed if the temperature of the water used was from 112° to 115° F., but if the temperature was raised above 120° F. no uterine contraction followed, the muscular fibre remaining paralysed. In those cases where hot-water injections failed Dr. Walter had often found that injections of vinegar and hot water in equal parts were followed by permanent uterine contraction. 2. Dr. Herman had spoken of the difficulty attending the use of electricity; this he had also found to be the case until he discarded all the ordinary batteries and used instead a small, but very powerful, magneto-electric machine, made for him some years ago by Weiss, with an intra-uterine electrode that unscrewed into four pieces and fitted into the box. The coarse interruptions produced by this machine had a remarkable power in inducing uterine contraction. 3. Intra-uterine plugging with gauze was not a method which he could advise, unless after abortions or miscarriages, when the expansile power of the uterus was limited. In one case, in which he had seen the uterus plugged after labour at full term, the uterus expanded after the plug had been inserted and hæmorrhage recurred. On removing the plug and washing out the uterus with hot water and vinegar the hæmorrhage was at once checked.

Dr. CULLINGWORTH thought there was a danger of the main object of the discussion being lost sight of. It was of great importance that we should have clear and definite rules for treating ordinary cases of post-partum hæmorrhage. The first step to take is to endeavour to excite uterine contraction by external manipulation. If this fails the aseptic hand should be passed into the interior of the uterus, the cavity emptied and the external manipulations supplemented by internal. Should the hæmorrhage continue the next means to employ is injection of hot water, at a temperature not lower than 110° F. The water should be injected in considerable quantity and the nozzle should be inserted sufficiently far to ensure the whole inner surface of the uterus being bathed with the fluid. It will not be often that these methods will be found insufficient to check the hæmorrhage or that recourse will be necessary either to plugging the uterus or swabbing with iron. He wished to enter a protest against Dr. Murdoch Cameron's suggestion that the vagina should be plugged. He had hoped that this method of treatment was as obsolete as it was dangerous. He agreed with Dr. Byers as to the absence of any clear evidence that chloroform exerts any influence in promoting post-partum hæmorrhage.

DR. ROBERT BARNES advocated the seizing of the uterus with the hand, the injection of hot water, and in extreme cases of perchloride of iron, which he had found of the greatest benefit. He was satisfied of the benefit to be got from ergot.

Dr. WILLIAM DONOVAN said: "I have practised obstetrics continuously for the past twenty-four years, and am able to say that I have not had in that time a serious case of post-partum hæmorrhage. I look on post-partum hæmorrhage as the revenge of an outraged uterus. The uterus, like other muscular structures, when overstrained loses for a time the power of contracting. If the uterus is allowed to go on contracting after the fœtus has ceased to advance with the pains we are preparing the way for an attack of hæmorrhage. If we give ergot to force the uterus to still more active contraction we are only increasing the danger. In my opinion ergot should never be given in a case of difficult labour, and I have no hesitation in expressing my strongest disapproval of the heroic (to say the least of it) manner in which certain practitioners have recommended its use. I consider ergot not only useless but absolutely dangerous, and, given in the enormous doses recommended by certain men, improper and unscientific. When I find that the head does not advance with the pains and that there is an arrest for, say, half an hour, I invariably put on the forceps and deliver the head; then I give the uterus time to contract on the trunk and lower limbs, assisting their expulsion gently. The legs and feet I allow the uterus to expel without assistance. If this plan is followed the uterus will contract and expel the placenta. I think it a safer and better practice to allow the uterus to do this itself; and if this is done I think there will be little danger of post-partum hæmorrhage. The sudden emptying of the uterus by a quick withdrawal of the lower limbs of the child and worrying of the uterus immediately after by compression or expression all favour hæmorrhage. I am inclined to agree with Dr. Playfair when he says that 'he looks with suspicion on the obstetrician in whose practice post-partum hæmorrhage occurs often.' The points I wish to lay stress on are—Never force a willing uterus. Help it all you can; do not worry it with ergot. If the

child remains unmoved, with pains of fair strength, put on the forceps, do not hurry over the delivery of the body and limbs, and leave the placenta alone; do not press and knead and worry the tired uterus. If you are inclined that way give a dose of ergot. When the head is delivered give the uterus time to recover after the strain of expulsion, so that it may gather contractile power to expel the placenta, or, at least, to force it into the vagina; after that take it away. As to the question of chloroform increasing the tendency to hæmorrhage I think there is no ground for the fear. Do not give ergot, it is a bad and dangerous substitute for the forceps. Remember the old saying, 'Never spur a free horse,' and of all things, assist nature and do not *force* her, and when you do assist, do not half do it—do not allow the uterus to exhaust itself so that it loses its power to contract, and, far worse, have post-partum hæmorrhages, and do not worry it with compression and kneading, or it may take *its* revenge and relax."

Mr. E. STANMORE BISHOP (Manchester) said: The question of post-partum hæmorrhage was one of what was called, in surgical parlance, concealed hæmorrhage, and in treating it a surgeon would naturally first think of a tourniquet. The ultimate process upon which we depended was the deposition of fibrin in the open vessels, and it was useless to expect this as long as the full force of the heart's action was driving blood through them. Although blood was apparently coming from innumerable jets the supply to the uterus, from which it was derived, was only through two main arteries, the uterine and ovarian. The uterine—the larger—arose from the internal iliac, and therefore was controllable by pressure upon the aorta near or above the sacral promontory, the most easily reached point. The ovarian artery, although arising higher up, was practically in the grip of the surgeon who held the fundus uteri. If, therefore, the ulnar surface of the closed left hand be pressed firmly against the aorta, compressing it against the spine, whilst the right manipulated and kneaded the uterus, the whole blood-supply was under control. This was not mere theory, the speaker having seen the blood gushing freely one moment and stopping suddenly as though the tap had been turned off directly this manœuvre was executed; and this not once, but more than fifty times in cases where the patient was utterly blanched by the suddenness and severity of the flood. The aortic pulse, which could scarcely be felt at first, gradually came back, becoming slowly firmer and stronger, until it beat with normal force against the proximal side of the hand; whilst no loss, or scarcely any, occurred whilst the pressure was kept up. This procedure was productive of several good results. It gave time to the patient to recover; it dammed up the blood in the upper half of the body, so keeping up the vitality of the more important organs; it gave time for fibrinous plugs to form in the patent vessels; it allowed the exhausted muscular fibres of the uterus—the ligatures, so to speak, of the vessels—time to recover their contractile powers, and it permitted the surgeon, if necessary, to apply with more ease and power any local hæmostatic measures he might deem advisable.

Dr. WALTER of Manchester read a paper on a case of Tubal Gestation in which both tubes were gravid, with recovery after operation, and showed the specimen as well as drawings. On August 7th, 1891, Mrs. S——, aged twenty-nine, was admitted into St. Mary's Hospital for Women, complaining of abdominal pain, painful defecation and painful menstruation. The patient had been married ten years and had had five pregnancies, the last four years previously. In July she menstruated as usual, but the periods in May and June were missed, during which months she suffered from morning sickness, pains in her breasts and abdominal pain during defecation, and in the month of June she could not leave her bed. The physical signs on her admission to hospital proved the uterus to be normal in size and position, but its mobility was slightly impaired. In the left broad ligament and close to the uterus was a mass the size of an orange, but owing to the tenderness that existed the swelling could not be accurately outlined. No swelling existed on the right side. Abdominal section was recommended, but before the operation could take place the hospital had to be closed for repairs, and the patient returned home. She again came to the hospital on Dec. 14th, 1891. There was no alteration in the physical signs, and she menstruated regularly. She was suffering, however, from bronchitis, and her cough was very severe and frequent; on this account the operation was again postponed. On Feb. 19th, 1892, she was readmitted and it was then found that she had missed a period in January, but began to menstruate on Feb. 17th, or two days before admission, and that during the seven or eight weeks of amenorrhœa she again suffered from sickness. On Feb. 21st, her period being over, a physical examination was made; the swelling in the left broad ligament was found to exist as before, but in addition a swelling could now be felt on the right side and behind the uterus. The uterus was still normal in size. It was decided to operate on Feb. 26th, and on the afternoon of Feb. 25th the patient was given some aperient medicine; during the evening her bowels acted five times, and at 11 P.M. she was suddenly seized with abdominal pain and vomiting; her pulse was 110 and very weak. She quickly rallied and, with the exception of increased abdominal tenderness and rigidity of the muscles of the abdominal wall, no alteration was found to have taken place in the physical signs. The next morning abdominal section was performed and a quantity of fluid and clotted blood was found loose in the peritoneal cavity. Both tubes were found enlarged, distended with blood-clot and closely adherent to the neighbouring parts. The uterus was normal in size and position. The right tube and ovary were removed together. The tube on the left side was removed also, but the ovary was not disturbed, it being closely adherent to the side of the pelvis at some distance from the tube. The abdominal cavity was irrigated with hot water and a glass drainage-tube inserted. The abdominal incision was closed with silkworm-gut sutures, and dry dressings of corrosive sublimate wool were applied over the wound. The patient made an excellent recovery and left the hospital on March 26th. On July 26th, 1892, she reported herself to be very well, and stated that soon after leaving the hospital she was able to perform her own housework and that she menstruated regularly. In a note appended to the paper Mr. Bland Sutton says: "As far as my knowledge of the subject extends this is the first indisputable example of a tubal pregnancy occurring concurrently in both Fallopian tubes of the same individual. There are three cases in which it was probable that this accident had happened, but the facts are not completely demonstrated—viz., Dr. T. Rowan (*Australian Medical Journal*, 1890, p. 265), Mr. A. Doran (*British Medical Journal*, 1891, vol. ii., p. 789), and Dr. Savage (*British Medical Journal*, 1892, vol. i., p. 556)."

P.S.—Since the above report was written an undoubted case of bilateral tubal pregnancy has been published by Mackenrodt. (*Zeitschrift für Geburt. u. Gyn.*, Bd. xxiii., Heft i.; *Die Verhandlungen der Gesellsch. für Geb. u. Gyn.*, at Berlin, s. 301.)

Morbid Conditions of the Fallopian Tube.

Dr. CULLINGWORTH gave a special lantern demonstration on some of the more common Morbid Conditions of the Fallopian Tube in the physics lecture theatre of University College. The room was well filled. The slides, most of which were coloured, were about twenty-five in number, and consisted of illustrations taken from actual specimens of the conditions known as hydro-salpinx, pyo-salpinx, and hæmato-salpinx; also of tubercular disease of the Fallopian tube, of suppurating tubo-ovarian cysts, and of tubal gestation. The drawings had for the most part been made immediately after the removal of the parts from the body by operation, and therefore while the tissues retained their natural colour.

PUBLIC HEALTH.

Hospitals for Infectious Diseases.

Dr. H. TIMBRELL BULSTRODE, of the South-Western Fever Hospital, London, read a paper on Hospitals for Infectious Diseases. He condemned wooden and corrugated iron huts, and, while demanding better hospitals, thought there should be a graduated charge for admittance. He believed that in many fever hospitals the nursing was not good and many of the nurses had no special training. The utmost should be done to tempt patients to come to the hospital. Dr. Bulstrode concluded by advocating the creation of a Ministry of Public Health.

Dr. BOOBBYER, Medical Officer of Health of Nottingham, said that payment for admission to the fever hospital had been tried and found to be a failure. It was now left to the goodwill and good feeling of each patient, and one gentleman had recently and voluntarily given three guineas a week. But at Nottingham there was the strongest feeling

against accentuating class distinctions, yet they tried to put the clean, respectable, decent patients in one ward. The removals of notified cases amounted to 85 per cent. last year; the number of fresh cases in the houses from which patients had been removed amounted to only 3½ per cent.

Dr. HILL of Birmingham thought the idea of payment for fever hospitals altogether exploded.

Dr. GROVES (Isle of Wight) pointed out that in health resorts they were especially liable to the introduction of infectious disease, and yet its notification might frighten people away and ruin the locality.

Papers were read by Dr. W. L. HUNTER on Small-pox in Pudsey a Century Ago; Dr. G. SCOTT TEW on Endemic Typhoid Fever; Dr. J. C. THRESH, on Notification of Erysipelas and Puerperal Fever.

Dr. R. PRINGLE mentioned a district in India where 95 per cent. of all the population was marked with small-pox; but where vaccination was practised that malady had been kept out. These assertions were confirmed by Surgeon-Colonel Hardy.

PSYCHOLOGY.

Neural Action corresponding to the Mental Functions of the Brain.

Dr. FRANCIS WARNER opened the discussion on the above subject. He argued that during the period of inhibition there occurred a bracing together of those nerve cells of the cortex which were concerned in the production of the microkinesis, and that this bracing together was antecedent to the purposive movement which followed. When a bright object was placed before an infant a few months old, upon many successive occasions, it was found that the purposive movement to clutch at it which followed the exhibition of the object occurred much more rapidly after a few days than at first, and this, he concluded, was dependent upon the development of a more intimate connexion between nerve cells than had originally obtained.

Mr. BEVAN LEWIS (the President of the Section) considered that Dr. Warner's conclusions were based upon sound observation and were substantially correct. He also pointed out that these signs of attention were of real use in diagnosis, that it is characteristic of alcoholics that the signs of attention are exaggerated, that attention itself cannot be long maintained, and that these points are of assistance in diagnosing this condition from general paralysis of the insane, for in the former there are marked twitchings about the brow and upper part of the face.

Dr. MICKLE contended that the action which resulted from a stimulus was largely dependent upon congenital structure. The mechanism concerned in swallowing was inherited from parents, and in like manner was that concerned in producing the more complex movements to which allusion was made.

Dr. RAYNER made a few remarks.

Dr. CAMPBELL maintained that will and attention could be brought into one line. In support of this he stated that all parts of the body are represented in the higher cortical centres, and that if we examine carefully the accompaniments of any simple act of attention certain changes would be found in the part to which attention is drawn. He claimed that during a voluntary act attention was emphatically directed towards the muscles, and that consequently attention and volition are both related to the dynamic changes in the parts.

Dr. WARNER, in replying, stated that at birth idiots did not present normal spontaneous movements, and that in these subjects they were either absent or irregularly grouped together, and spasmodic in character.

Dr. HARRY CAMPBELL read a paper upon Minor Psychical Disturbances in Women. He began by saying that cases such as he was about to describe came to the London hospitals in their thousands, and that they very rarely if ever became insane. Such patients were, as a rule, not hysterical. The symptoms which he described in detail were as follows:—(1) Depression of spirits, worse in the morning, often relieved by weeping. He discussed the reason why such depression should be worse in the "cold grey dawn," as one of his patients expressed it, and considered that it was largely due to the antecedent sleep. In one-third of his cases, however, depression was worse in the evening. He considered that the principal cause of the symptoms was abnormality of blood plasma and of blood pressure, and that ptomaines and other morbid bodies had an important influence. He discussed the question as to how far the nerve-cells themselves were healthy. He thought that recovery depended rather upon the building up of impoverished blood than upon the repair of any defective nerve structure.

Dr. URQUHART (Perth) thought that the study of borderland cases was of the utmost value in the study of insanity. In speaking of morning depression he alluded to the sad and gloomy words of self-depreciation used by Ruskin in concluding one of his works, which words were written in the small hours of the morning.

Dr. ROBERTSON (Edinburgh) alluded to the anabolic activity of the cortical cell during sleep, so that the cell was built up again for further work. He argued that under morbid circumstances the contraction of the bloodvessels might hinder access of red blood discs to the cells, the capillaries being so contracted that the nerve-cells might be in part deprived of oxygen during the hours of sleep, resulting in exhaustion of the cells. This might be the cause of the depression and mental pain occurring shortly after sleep.

Dr. FRANCIS WARNER thought that delusions and ocular illusions were more common than Dr. Campbell had stated, and that hospital patients withheld them for fear that they should be considered insane.

Dr. DUNN (Wakefield) considered that in hospital patients the principal cause of the depression was a deficiency in the supply of food-stuffs to the brain, as in the morning food had not been taken for a long time, and that he had found an early breakfast valuable in relieving depression.

Dr. JOHNSTON-LAVIS (Harrogate) said morning depression was common in Italy where late breakfasts were taken. He found that it was also to be met by giving caffein, which caused increased circulation, deficient quality being made up by increased quantity.

Dr. CAMPBELL, in reply, said the question of whether delusions were common was dependent upon the nature of delusions. He thought that many persons of late had suffered from political delusions. The influence of coffee, he thought, was a striking confirmation of Dr. Haig's views on the question of morning depression, that it was due to excess of uric acid in alkaline blood during the "alkaline tide." Caffein undoubtedly decreased the alkalinity of the blood. He considered that Dr. Haig's explanation was correct in many cases of morning depression, but it did not by any means explain all.

Dr. MACPHERSON read a paper entitled "Remarks upon the Influence of Intestinal Disinfection in some forms of Insanity." After some preliminary remarks as to the harm that is often done by narcotics in acute cases of insanity he stated that he had found brisk purges often of great value, especially in warding off recurrent attacks. The visceral symptoms in melancholia were next alluded to, and these had suggested to him the means described for their removal. He began upon a suitable case by washing out the stomach, the administraion of calomel at night, followed by a laxative in the morning, and then regular doses of some antiseptic. He had tried naphthalin and β-naphthol, and found the former the better. Nitrogenous diet was restricted and peptonised gruel administered. The lecturer had found prolonged treatment essential to success, and then quoted in some detail four cases, in all of which decided improvement followed the treatment described, which he thought could be only ascribed to this treatment. Thirty other cases were also summarised. In no case was the general health interfered with; in most cases the body weight increased steadily—in no case did it fall. Sleep was very markedly improved, and this improvement was maintained without increasing doses of the drug, and was never followed by increased restlessness; in no case was there any change in the nature of the mental symptoms, and it did not shorten the period of illness, but it modified the illness materially, lessened the motor irritability and the tendency to suicide, and generally ameliorated the symptoms. Dr. Macpherson considered the drug safe, for though it failed in some cases it, as a rule, promoted nutrition and induced a normal sleep while the psychical disorder was not affected.

Dr. GOODALL thought the influence of toxines was one of increasing interest. He considered that the naphthaline would hardly injure the micro-organisms if it reached them, but he doubted whether it ever did so. He stated that the French observers had shown the difficulty of destroying saprophytes of the intestinal tract with reagents more powerful than the naphthaline in the doses used.

Dr. JOHNSON-LAVIS related a case in which he had advised intestinal disinfection after general treatment had failed. Calomel was regularly administered with marked success. He also quoted another case in which obstinate constipation, associated with chronic mental derangement was relieved by the injection of mentholised oil.

Dr. ROBERTSON agreed with the remarks of Dr. Goodall as to the importance of ptomaines in insanity. He stated that it was not necessary to destroy the germs, but only to limit their functional activity. At Morningside they had used β-naphthol with advantage and he had seen it successfully employed by Dr. Voisin in Paris.

Dr. RAYNER thought the treatment was likely to be of great value.

Dr. URQUHART said that twenty years ago he had tried hyposulphite of soda for a similar purpose, but it had not been satisfactory. He suggested the use of eucalyptus.

Dr. MACPHERSON replied. He thought that Dr. Goodall was incorrect when he alluded to the failure of naphthaline to disinfect the intestinal tract. It had been shown by competent authorities that the combined sulphates vanished from the urine after administration of repeated doses of naphthaline; that, moreover, in such cases the fæces were entirely devoid of smell.

Dr. FRANCIS WARNER enumerated the chief points of a report of the committee appointed to investigate the physical and mental condition of children in schools. The results given were obtained from the examination of 50,000 children. Some of the more notable of the conclusions were as follows: As regards nationality it was found that the Irish children presented a proportionately greater number of developmental defects, their nutrition was poorer, and the number of dull children was greater and they had a greater tendency to nervous disturbance; whilst the Jewish children were decidedly superior to the English in each of the above respects. As regards the social class, it was found that the poorer classes presented a superiority to the upper in nearly every respect, and that in comparing children within public institutions to those in Board schools it was found that though the former were, on the whole, better nourished, in other respects they were decidedly inferior to the latter.

Dr. RAYNER read Dr. Frank M. Pope's paper, entitled a note on the Establishment by the Leicester School Board of a special Class for Feeble-minded Children, in which interesting details of the formation and management of this class were given.

Mr. CLARK, President of the Nottingham School Board, alluded to the large number of children of the upper classes who presented physical defects, and said that he considered that this was due to these children escaping, through social advantage, the struggle for existence. He thought that the improved morality of Jewish parents and the care which their religion demanded as to food, was largely the cause of their superiority over English children.

Dr. SHUTTLEWORTH congratulated the Association upon the work done by its committee, and hoped that the committee would be encouraged to accumulate more information, especially in the north of England.

Dr. RAYNER moved and Dr. LINDSAY seconded a resolution to the effect that the Council be invited to publish Dr. Warner's reports.

PATHOLOGY.

Dr. ADAMI (Cambridge) contributed a paper upon the Variability of the Bacteria. He pointed out that while it was generally held that the species of bacteria are definitely fixed, possessing properties that are constant, year by year more investigators are recording facts not in harmony with this view. The subject is one of such great importance that he had repeated a large number of the observations made by Schottelius, Laurent, Gessard, Charrin, Wasserzug, and others upon the variability of chromogenic bacteria &c. and had determined their correctness. He demonstrated variations occurring in the bacillus pyocyaneus, B. ruber (Kiel), B. ruber (Plymouth), microbacillus prodigiosus, M. indicus, sarcina erythromyxa and torula rubra, and showed that the amount of modification impressed upon the microbe and the durability of the same depend upon the extent to which the media of growth, temperature &c. are modified. A comparatively slight alteration of environment, if continued over several generations (or more truly cell multiplications), or a powerful stimulus applied for but a short time to one generation, may bring about the production of a race which for months—that is to say, countless generations—retains the acquired characters and would seem to be permanent so long as it is propagated upon ordinary bacteriological media with ordinary precautions. Dr. Adami pointed out that while this was true it could scarcely be said that a new species had been developed in that a further alteration of environment might bring about reversion to the type. While the ordinary media of the bacteriologist might suffice for the growth and preservation of characteristics of both race and type, and while on these the race might show no tendency to reversion, an alteration of the media &c. in the direction of procuring optimum conditions of growth tends towards such reversion. Evidently therefore there must be not a little latitude in our conception of species among the bacteria; we must be prepared to discover considerable variations in the properties of any one species. The author then proceeded to show how these principles may throw light upon certain difficulties in connexion with pathogenic bacteria. He pointed out that, in addition to what we know as to the production of artificial races of pathogenic microbes, we possess a very fair body of evidence as to the existence of natural races of several species, and he considered that Cunningham's remarkable observations upon the various spirilla showing slight differences of mode of growth to be obtained from cases of cholera in Calcutta, Babes' and Cassedebat's pseudo-typhoid bacilli, Loeffler's pseudo-diphtherial bacilli &c., are all capable of explanation on the assumption that here we are dealing not with distinct species, but with races or modifications due to change of environment. He would, in part, explain the differences in the symptomatology of successive epidemics of one disease by differences in the pathogenic properties of the specific microbe, and in such diseases as diphtheria and typhoid fever would frequently see differences in the pathogeneity of the microbes gained from successive cases.

Dr. VAUGHAN HARLEY, Grocers' research scholar, read a paper on the Pathogenesis of Pancreatic Diabetes. This was another of the new school of chemical pathological papers in which the theory of the pathogenesis of the disease was not only supported by chemical data, but by clinical evidence, as well as by experimental pathological results, showing that whenever the pancreatic functions are totally destroyed a fatal form of diabetes is the result. The disease was shown by tables to be most common in the human subject in persons below the age of thirty. It was likewise shown that as the human body uses up every day in the performance of its normal functions from three to four pounds of sugar, and in the fatal form of the disease rarely more than one-eighth part of this amount is lost to the system by the urine, it cannot possibly be the sugar loss that kills, but some entirely different factor. As regards the cause of the disease, Dr. Vaughan Harley gave a variety of different kinds of clinical and experimental data, which he considered justified him in saying that the presence of sugar in the urine in cases of pancreatic diabetes most probably arose from a deficiency in the blood of normally present pancreatic glycolytic ferments to split up and prepare the sugar for the purposes of tissue nutrition; while the nerve prostration and great muscular weakness which are invariably associated with all cases of pancreatic diabetes, whether occurring as the result of disease in man or as the effects of operative procedures in animals, Dr. Vaughan Harley regards as mainly due to the retention in the organism of certain excrementitious substances, which, forming toxic leucomaines, act as ordinary poisonous materials do, and so interfere with normal tissue nutrition as to give rise to great functional disturbances and even end in death.

Dr. VAUGHAN HARLEY also read a paper on the Pathology of Obstructive Jaundice. In this communication, which embodied the results derived from a long series of chemical, pathological and experimental biological researches on the antagonistic effects, from a jaundice point of view, of ligaturing both the thoracic and common bile-ducts in animals, the author said the following justifiable conclusions might be drawn: 1. That, contrary to the accepted pathological doctrine, the bile which is eliminated by the urine and deposited in the skin and other tissues in cases of obstructive jaundice does not find access into the general circulation of the blood-capillaries at all. 2. In cases of obstructive jaundice it is the lymphatic system of vessels alone which absorbs biliary matters, and it is wholly and solely through the instrumentality of the thoracic duct that the bile finds its way into the bloodvessels. 3. After the thoracic duct has been for some time ligatured an adventitious supplementary chyle duct forms by the coalescence

of either newly developed or pre-existing collateral lymphatics from a point of the thoracic duct below the seat of ligature, through which its chyle and lymph are transmitted into the right innominate veins, and thus perform vicariously the transporting functions of the thoracic duct. 4. These facts, taken collectively, account, first, for the absence of bile acid and bile pigment from the urine in cases of obstructive jaundice, when the thoracic duct is ligatured. Secondly, for the reappearance of both the bile acid and the bile pigment, in spite of the closure of the thoracic duct, in the cases where dogs lived sufficiently long for the lymphatic anastomotic communication between the duct and general circulation to develop. Thirdly, for the animals thriving so well after both bile and thoracic ducts had been ligatured, as well as conclusively showing that, as the blood capillaries had during the time these changes occurred been totally uninterfered with, they cannot be the agents of the absorption of the pent-up bile either from the hepatic bile-ducts or from the biliary appendages; while, on the other hand, they equally conclusively show that the absorption of bile is entirely dependent on the lymphatic system of vessels. 5. As bile is freely eliminated by the blood capillaries, though it is not absorbed by them, this proves that the endothelium of the blood capillaries has only the power of permitting bile to pass through it in one direction. 6. That after the common bile-duct is obstructed the constituents of the pent-up bile do not pass out of the bile tubes and gall-bladder, to be absorbed by the lymphatics, in the same relative ratio; but, on the contrary, the mucin and cholesterin remain behind and become far more concentrated than either the lecithin, fat, soap, or taurocholate of soda. And this fact probably explains why cholesterin gall-stones are so much more commonly met with in the human subject than any of the other varieties. 7. That from the hepatic bile capillaries branch out fine bile canaliculi among the liver cells, some of which are seen to enter and to terminate in the interior of individual hepatic cells in blind extremities. 8. As the dogs experimented upon not only lived, but gained in weight, after bile was prevented finding access into their intestines, I am led to the opinion that under judicious feeding the presence of bile in the intestines is neither necessary to the digestion nor assimilation of certain alimentary matters, and consequently not indispensable to life. 9. That ligaturing of the thoracic duct in dogs not only prevents obstructive jaundice occurring after ligature of the common bile-duct, but that it actually checks the signs and symptoms of jaundice after they have appeared.

Researches in Cancer.

Dr. H. SNOW read a paper on Cancer. In further illustration of his discovery that mammary carcinoma insidiously infects the marrow of the bones, Dr. Snow exhibited a sternum and part of the humerus from a patient with that disease. He pointed out the opaque-white colour of the infected marrow and the decalcification of the bony structures. The development of "the sternal symptom" (a slowly progressive prominence of that bone between the second costo-sternal articulations) by lymphatic infection of an adherent thymus was referred to. The genesis of "melanotic cancerous disease" was next considered. This arose invariably from pigment-secreting cells. Under the common title "melanotic sarcoma" two distinct varieties were confounded. The first, affecting the eyeball, sprang from connective-tissue cells and was therefore a true sarcoma, not infecting the lymph glands *per* the lymphatic vessels. The second form was an epithelial product derived from the deep columnar cells of the rete Malpighii and, as usual with such, it quickly contaminated the proximal lymph glands. All cases of melanotic cancer growth on the integument belonged to this class; they commenced in the redundant epithelium of a pigmented wart or mole. A number of crayon drawings showing the transitional development of the latter species were exhibited.

Dr. SNOW further produced two series of coloured sketches, of which the first demonstrated the characters of rodent ulcer as a malignant reproduction of hair-follicle structure, with an origin from the cells of the outer root-sheath. The second illustrated the production of globes épidermiques, not by endogenous cell formation as formerly taught, but by the vacuolation of cells over a large area. The epithelial cells concerned had an inherent tendency to secrete mucus; the protoplasm of one or more of their several nuclei became gradually converted into a minute vacuole or intra-cellular cyst. This was the first stage of the globe formation. These vacuoles had lately been described by Dr. Armand Ruffer as parasitic bodies, but there was no evidence in favour of such a hypothesis. Traced further, the contents of the affected cells were seen to become more and more replaced by fluid, and eventually became blended into the laminated or imbricated corpuscles known as "globes épidermiques."

DISEASES OF CHILDREN.

Ringworm.

Dr. PHINEAS ABRAHAM read a note on Ringworm and its Treatment. He alluded to the legion of published "cures" concerning which each author had virtually cried "Eureka!" but, in spite of these certain cases of tinea tonsurans were still as intractable as ever, and mentioned a method of treatment which for some years past he had found very useful. An ointment, containing carbolic and salicylic acids (of each half a drachm to one drachm to the ounce), was rubbed in with a stiff brush twice daily, the scalp being shaved occasionally, kept closely cropped and always greasy, a cap being worn and changed daily, and the head washed with an antiseptic soft soap once a week. A number of cases had thus been cured in a comparatively short time though the majority has required several months. Additional applications, after washing, of carbolised liniment of iodine, have occasionally been made in obstinate cases or mercuric chloride or iodide (one to two grains to the ounce) has been added to the ointment. The doctor's experience had been that the more intractable instances had occurred in blonde children and in girls, and two of the most troublesome cases were in young albinoes. He had met with three cases in adult women, one being very extensive and difficult to cure. He doubted whether Dr. Unna's method would be much used in hospital practice in this country on account of the time and manipulations required in applying the dressings, and alluded to the use of chrysarobin for many years by Mr. Hutchinson, Mr. Tay and others. He observed that the prophylaxis of this disagreeable disease was insufficiently attended to. Although every source of contagion could not be always guarded against, one recommendation, long ago made by Dr. Liveing, should be generally adopted—viz., that children going to the hairdresser should always take their own brushes and combs with them. The *British Medical Journal* in 1885 sounded a note of warning in reference to the extensive dissemination of ringworm by our Board schools, and Dr. Stowers and Mr. Malcolm Morris have since called attention to the subject. The matter seems of such importance that it should not be allowed to drop. It has been suggested that the school children be periodically examined by competent experts and the affected ones kept apart, but nothing has as yet been done in this direction. Children affected with tinea tonsurans still going to school are quite common at the two skin hospitals attended by the author, and it is easy to understand how the disease must thus be spread.

Dr. ALFRED EDDOWES read a paper on the Treatment of Ringworm of the Scalp. After referring to the success which Dr. Unna had obtained by his method with chrysarobin, he proceeded to describe a modification of the method which he himself now employs in out-patient practice. The essential preparations are a mild sulphur ointment and a compound chrysarobin ointment. During the first week the scalp is washed every two or three days with soft soap or soda and water and dressed daily with sulphur ointment. For as many weeks as necessary afterwards the scalp is systematically treated by the chrysarobin and the sulphur ointments according to a plan which the author described in detail. In private practice and when thorough supervision could be exercised, he recommended the plan as carried out by Dr. Unna himself; but for out-patient hospital practice he found his own modification was more suitable, though not so rapidly successful. When the ringworm occurred in schools he did not consider it at all necessary that children should lose the advantages of education and be prohibited from attending their classes because they happened to have ringworm of the scalp. In his opinion they could be treated by a simple method, which he described, until the vacation or other convenient time, and then be taken in hand more thoroughly if still uncured. He mentioned a case which illustrated the futility of attempting to treat ringworm piecemeal and showed the advantage which the taking of cultivations of fungus had over other methods as a test of the progress of the treatment. Against the general or extensive employment of mercurials he felt very strongly, and for reasons which he gave he much preferred even dirty-looking and somewhat

irritating substances to such as might contain poisons and not be so readily controlled.

Dr. P. MURRAY BRAIDWOOD read a paper on Nervous Disorders following secondarily certain Acute Infectious Diseases of Children. In this paper Dr. Braidwood considered the pathology and treatment of nervous disorders following croup (including diphtheria), influenza, measles, mumps, whooping cough, rötheln, scarlatina and chickenpox. He stated his belief that convulsive and epileptiform disorders following secondarily on acute infectious diseases in children were generally due to some accidental cause as a fright or the over-pressure of school work. Paroxysms of eclampsia infantilis closely resemble in their symptoms those of epilepsy in the adult. The convulsions may be repeated three or four times, while in the intervals the comatose condition and complete loss of consciousness and sensation may continue. The persistence of the reflex sensibility may in such circumstances easily mislead, for touching the conjunctiva produces contraction of the oricularis and sprinkling with cold water excites reflex contractions. Dr. Braidwood also considered the causes and treatment of chorea, Jacksonian epilepsy, unilateral spasms and tetanus. Massage in Dr. Braidwood's hands had yielded good results in cases of infantile paralysis, especially when he had combined it with electricity. The paper was illustrated by an interesting table of the chief nervous affections met with after the various infectious diseases.

THERAPEUTICS.

Touting in the Medical Profession.

Professor GAIRDNER of Glasgow said: I have asked permission to introduce some remarks into the business of this Section. Last spring it happened that I was appointed without my own concurrence in the least degree and by the unanimous voice of the committee to be the chairman of the Therapeutic Committee of the British Medical Association. I accepted the appointment under certain reserves and with certain misgivings, but these were entirely overcome when I found, some time afterwards, that the committee were at one with me in desiring that I should accept the chairmanship upon the conditions and with the reservations that I had myself made. About a year later it was discovered that the branches I had hoped to engage in the work did not, as it were, come to the rescue, and accordingly I found myself in the position of a defeated Minister. I had accepted for a particular purpose and with a particular policy in view, and I had found that the policy had broken down completely and therefore it appeared to me that the proper course was to resign the chairmanship, which I did. The resignation has been accepted with regret, but the circumstance which has made me address this Section is that I did not think all through the proceeding that the matter had been brought fairly before the public. I did not think the Sections who were written to and engaged in the matter were properly informed as to what my wishes were. I do not think the public knows, or that the members of the British Medical Association know, anything about it, and this has happened because the papers that I myself issued as indicating the policy I wished to follow have never been published. Now, mind, I am not blaming anyone. I am not wanting to raise a storm or make a personal point of this at all. I am not wishing to make any sort of mischief or disagreeableness, I am only stating as a matter of fact that I am standing here on the footing of a defeated Minister, having resigned my portfolio to the Association without its knowing why I have resigned it. It is quite true that a short circular letter from Dr. Sidney Martin was issued to each branch, but the papers in which I indicated more or less the lines which I considered it desirable to follow have never been published. Not only so, but I have received a letter from the Committee of Reference to the Journal to say that in their opinion they are not to be published. Now I am not quite willing to acquiesce in this, and all I want this Section to do is to listen to a few passages out of these papers and to say whether my views were not reasonable or, at all events, worthy of coming before the public more deliberately and more decidedly than they have done. I omit everything that is not essential, and I begin here:—

"Of the therapeutic work of the committee it may be said to begin with, that it not only constitutes, or ought to constitute, the larger part of our work, but from the very necessities of the case it must be conducted on lines differing essentially from the pharmacological work. The latter is capable of a very direct initiative and can be carried out on a general plan by physical investigation with experiments planned in the laboratory or otherwise, so as to obtain quite definite results and subject them to all the necessary corrections; but in therapeutic inquiries, strictly so called, you must of necessity pursue quite a different method, and be contented with much less satisfactory results. You must, in the first instance, secure a field for observation. You cannot make, according to preconceived arrangements, the particulars you want in respect of diseases on which to test your medical agents. Secondly, you must have men of skill known as such to perform your experiments and more or less precisely to record the results; but the point to which I wish your attention generally directed now is that not only must you have a wide field of competent men, but you must, as the first step thereafter, cause these men individually and collectively (to whatever extent you apply the collective method) to be impressed with the idea *a priori* that the experiment you wish to be made falls within the line of their duty, and is indeed obligatory on them as dealing with sick humanity. In other words, the men whose assistance you wish to secure are physicians first and therapeutic experimentalists afterwards, and it is not competent for you to require of them to subordinate the first of these characters to the second. Hence it arises that the collective method of investigation is only in a very limited degree applicable to the kind of inquiries with which we are now concerned. You cannot, as a rule, advise in London and put into the form of a schedule an inquiry as regards a particular remedy—say, a new remedy—which will have the force of an appeal carrying the conviction that the experiment so advised is the right one to be made, as viewed from the physician's point of view; but unless this conviction is obtained your experiment cannot be made at all, or, if it is made, it will be in a very half-hearted fashion. Hence it arises that in this element of personal conviction you have a barrier at the outset to what many call 'control' experiments on a considerable scale. The men who will give you a remedy are, by a kind of natural selection, predisposed in its favour; the men who are not so predisposed will usually abstain from giving the remedy and in general will be quite right so to abstain. You must in the end take the results with this bias of what may be called 'natural selection,' or you will have no results worth speaking of at all." I omit here a paragraph which is not important. "If you have followed me thus far in this line of argument and the committee are convinced of it because all agreed with it, you will see why my mind inclines to a multiplicity of small local committees rather than to one only, guided and governed mostly from London as the absolute centre of suggestion and reference. Not but that I believe that a central therapeutic committee will have its functions greatly enhanced and its way cleared for advance by coöperating in advising and by controlling rather than initiating the great variety of research of the local committees. You have obtained the necessary starting point and, having done so, it would remain for the central committee to record the conclusions and the results which have been arrived at by the local committees. If the central committee found the results unsatisfactory they might say so, or open up the question again on other grounds, or refer to another committee, or remit the conclusions back again to the original committee. In any case the central committee would have still more important functions in becoming the medium of communication between local committees at a distance, or between these and the Association. Very important inquiries might thus be made. The local committees would be safe from the premature and biassed judgments which were now put forth upon certain drugs and which are the mere despair of therapeutics." Now, my complaint is that all this pleading never reached the Association; it not only was not published in the Journal, but it was deliberately kept back, owing to the machinery by which the work of committees is confined to the committees. The new start initiated by the Therapeutic Committee ought to have received the largest possible publicity in the Journal, to have been discussed by the Association at large at the very commencement, in which case there might have been some sort of hope of getting these local committees constituted and of their doing something. Instead of this the result has been that, except in Glasgow (where the committee has been constituted, but could hardly be induced to meet) and in Dublin (where the committee is still in existence, although it has not done anything yet) all the branches that were applied to simply

ignored or left the matter alone, and the policy has come to a state of dead failure and utter stagnation. That is attributable entirely to the Journal having either declined, or at all events having not published the basis of the remarks upon which the local committees were called for and asked for. Now, gentlemen, I am not complaining. This is not to me a matter of personal importance; in reality I am not inclined to press it, especially when I consider the severe labour and occupation which would have been imposed upon me had I continued chairman of the committee. Unless a position of that kind is filled *con amore* no good ever can come of it. I do not think, therefore, that the policy has had fair play; and I will go further, and I may say that sooner or later something of this kind will require to be done. I am perfectly satisfied that without therapeutic organisation in all our great medical centres therapeutics will go to the dogs. We are all getting more and more in therapeutics to be the victims of what in American politics is called "the machine." It is either a scientific machine, such as Dr. Sidney Martin or Dr. Lauder Brunton and all the great authorities in London who are working away at therapeutics in their libraries and laboratories—a kind of "machine" that is highly honourable; or it is a kind of machine that has found its way even into this room. It is the latter I am most afraid of. It is the "touting" machine. We see touting right and left, so much so that we are not allowed now to make up our own prescriptions. It is this apothecary in London and that physician in New York who keep urging upon us combinations of remedies used by themselves, and there is no ill to which human nature is heir that has not got its sole and universal remedy advertised all over the world. Any medical man requires simply to send his attestation that he has tried this remedy in numerous cases and always found it effective, to secure to himself that his name will get all over the world. It is that "touting machine" that is perverting all our therapeutics and lying at the root of biased judgment. How all these great advertising firms manage to "nobble" the profession is a mystery to me. A good many years ago a whisky used to be advertised under the patronage of all the medical journals in this country, but it is never heard of now. But, still, it is just one instance among many of the touting plague. The evil consists in this, gentlemen, that if a firm or a man, pharmaceutist or doctor, chooses to take, what up to a certain point is legitimate means of advertising and puffing, if he simply chooses to put it into the proper channels for acquiring a certain amount of publicity in connexion with his name, but chiefly, and above all, to connect his name with a remedy, it is not of the slightest consequence whether the remedy is absolute and unmitigated trash—nay, whether it is dangerous or whether it is the greatest possible boon to mankind, it is not of the slightest consequence, because before it is found out he will have made his money, if he has only puffed and touted it well, before there is time to find out whether it is good, bad or indifferent. Well, before there is time to find out whether it is good, bad or indifferent, he will have made an indescribable number of guineas. That is a great snare. There is a constant golden bait held out to the man who will manage to get even a certain temporary or makeshift presentation of a particular therapeutic agent, and in consequence of that golden bait (I am not attributing anything to the honourable members of the profession, but it is applied to the advertising firms) it is of far less consequence that the remedy should be good than that it should be something that can be well touted and well advertised. I had hoped that by constituting a nucleus of therapeutic inquiry in London and by attaching to this nucleus a number of largely independent and self-regulating centres of inquiry and investigation in the provinces, so that local errors might be effectually controlled, I had hoped that we might form a kind of barrier, a protection against the constant invasion of bad, useless and worthless things, and, on the other hand, advance the interests of true therapeutic science.

Discussion on "Dyspnœa" and its Treatment by Drugs.

Professor GAIRDNER, in introducing the subject, said an objection to a discussion on this matter was that the term did not refer to an individual and simple fact. It was not even the name of a disease. A second objection would have been that the treatment by drugs is not the whole treatment. As the therapeutics of one form must be distinguished from that of another kind he would endeavour rather to indicate the line of treatment by drugs than to indicate any particular drug as being of any more importance than another. The great physicians recognised three types of dyspnœa which were put in brief form by Celsus, thus: When the difficulty of breathing is moderate and not suffocating it is called "dyspnœa"; when it is more vehement, so that the breathing is suffocating, it constitutes apnœa; and when the breathing can only take place in the erect position it is termed "orthopnœa." All these words still remain with us. Orthopnœa is obviously something which differs in kind from mere dyspnœa—no doubt very often associated with it, but still containing in its differences something that was worthy of investigation. Apnœa in the last century was the general term for all kinds of dyspnœa. It is now limited to what is called "spasmodic asthma," and thus has obtained a somewhat different sense from that which was given to it originally. At all events it may be said that it is vain to discuss the treatment of dyspnœa by drugs without some kind of preliminary definition, however imperfect, to show you in what particulars cases of dyspnœa differ *inter se*. Dyspnœa, however arising, may be manifested in three distinct ways:—Firstly, by the presence of a peculiar sensation—*le besoin de respirer;* secondly, by a chemical change in the blood corpuscles, which leads to cyanosis; thirdly, by decreased activity of the respiratory reflexes and the respiratory movements. Not infrequently all these groups of phenomena coexist, though not necessarily in equal proportion. In some patients cyanosis is not apparent, while in others, as in cases of congenital malformation of the heart, cyanosis is the leading phenomena. The *rationale* of these discrepancies is not always clear, but the following considerations may help towards its clearing up, especially in a practical sense. The minimum degree of dyspnœa which can be called pathological is what is termed "shortness of breath." In some it would appear that either from the organisation in which the excess breathing power is always low, or from an undue sensitiveness of the respiratory reflexes, the least exertion brings about a sensation of dyspnœa and with it an increased shortness of breath. The converse of this is that in other cases very serious invasions of the respiratory mechanism are comparatively little affected by breathlessness. For example, I have seen a man with the pleura so full on one side that he had been tapped several times, but he had never the slightest sensation of dyspnœa; and, to mark that more emphatically, I had counted his respiration at sixteen per minute. The sensation of dyspnœa, the cyanosis with increased efforts of breathing, are facts or manifestations which may lead to different and sometimes separate indications for treatment. Further, dyspnœa itself, being a mere group of symptoms and not a disease, the removal or mitigation of the cause is often the only real key for the effective treatment. Dyspnœa may be purely of hæmatic origin, as in anæmia, in which the blood corpuscles or oxygen carriers are both deficient, and the tissues consequently are not properly fed with oxygen. In this variety there is no cyanosis and even little of the sensation of dyspnœa. So far as my observation goes there is never orthopnœa. The patient is perfectly contented, sitting or recumbent. The respiration is as often slow as rapid and the circulation also may be languid. In this case the therapeutic indication is manifestly to restore the hæmoglobin to the corpuscles and to increase the number of these. Iron, arsenic, regulated exercise and all the remedies for anæmia are also the remedies for dyspnœa, which is a consequence of the anæmia. Failing this, inhalation of oxygen gas may be employed to bring about, *pro tempore*, the just balance between the blood and the tissues. None of the ordinary cardiac drugs can be expected to give relief. Again, dyspnœa may be due to pulmonary causes. In the first instance it may be exclusively pulmonary, and detection of the nature of the causes will, more than anything else, dominate the treatment. The typical cause here is bronchitis with emphysema. In these cases cyanosis is present and may be even extreme during an exacerbation. There may be also found a distinctly paroxysmal element, which, however we account for it physiologically, is designated "spasmodic asthma." The breathing is not so much accelerated as it is laborious, and the whole disturbed mechanism of the respiratory act shows that a patient is under the mechanical or vital necessity of making every single respiration as effective as possible by inspiring to the full extent of his vital capacity. Inhalation of oxygen gas might be suggested as a palliative, but it can only go a short way. It is very good as a temporary expedient, and I have on various occasions recommended it with advantage; but the one great therapeutic indication is to remove as far as possible the obstruction to the air

which exists in the tubes or air cells. Hence the general recognition of expectorants. Now, many people use the phrase without clearly knowing what is an expectorant. I hold that an expectorant is a remedy that acts upon what I call the scavenger muscles of the air tubes. I say that the bronchial ramifications below the cartilages are under the domination to a great extent of the muscles that line them, and that these muscles are engaged, both in health and in disease, in the perpetual process of scavenger work—clearing out, not only the mucus, but the dust and offensive matter which we are inhaling. I have endeavoured to convince myself that this is a necessary function, and, if so, there is some apparatus for its performance, and that I believe to be the muscles that line the bronchial tubes. An expectorant, therefore, is a remedy that acts upon, quickens, regulates and renders normal that which was abnormal—this scavenger function is that of the bronchial tubes. Dr. Benjamin Ward Richardson has been the first to use the term "pneumoparesis," and he applies it exclusively to the vascular system of the lungs—paralysis of the small vessels. What I wish to state here is that if I had adopted the term I should have applied it to the paresis of these scavenger muscles, and I believe that the large part of the bad effects that lead to dyspnœa is either caused or aggravated by the accidental failure on the part of these clearing muscular agents to do their duty. The science of therapeutics consists in using such remedies or drugs as act upon these muscles, quicken their expulsive methods and clear a free passage to the air. The remedies are the normal constituents of an expectorant mixture. There is quite a distinct group of causes of dyspnœa of pulmonary origin, the typical instance of which is what is absurdly called "acute croupous pneumonia." Here the obstruction is in the air vesicles, and accordingly no strained efforts of the muscles of respiration can be of any avail except in supplying those parts of the lung which are not affected. A patient with bronchitis almost always has orthopnœa; he sits up, makes great efforts, inspires to the top of his bent, but the respiration is not always quickened in proportion; but the patient with pneumonia, whether in one, two, or three lobes of the lung—that is, with pneumonia and nothing else—lies flat on his back. There is not the slightest orthopnœa; he may be more cyanotic than the other man, but he lies upon his back and breathes rapidly—50, 60, and 70 in the minute. The respiration reflexes act in the direction in which they are wanted. Expectorants here are of comparatively little use except as keeping clear the avenues of such parts of the lung as are capable of admitting air. The treatment is the treatment of pneumonia, and in this treatment opium is notoriously a drug which requires to be used with great caution. Opium no doubt acts by paralysing the scavenger muscles. Why did opium check expectoration? It did not check the secretion of the skin. It checked lung secretion by paralysing the action of these scavenger muscles.

The third group includes the cases in which the initial lesion is not essentially of the lungs, or at least is not within the air passages and air cells, but which lies outside of the pulmonary apparatus altogether. It included cardiac dyspnœa, pleural and peripheral effusions, dropsical swellings, asthmatic dyspnœa &c. In this third group the working point in therapeutics is and must be in favour of the removal of the cause, whether fluid or otherwise; in cases of cardiac origin strengthen the heart by cardiac tonics to overcome the difficulty of breathing. With respect to the removal of obstructing matters which cannot be dealt with through expectorants, remember always one of these true sayings: "In morbos pulmonum ad vias urinæ ducendum: in disease of the lungs act upon the kidneys"; and if time is allowed by the urgency of the symptoms—the well-known and recognised diuretics are available here, and even the so-called cardiac tonics are most effective in producing diuresis. I have been accustomed to say in administering these tonics—digitalis, strophanthus and so on—"Look well to the kidney secretion; take a note of the quantity of urine before you begin to use the drug and see whether in two, three, or five days it increases—doubles, trebles or quadruples itself. If so, the action of the remedy is safe and satisfactory; if not, the opposite is the case. I would here interpolate that cream of tartar—an old friend of mine—which was long before my day championed by Cullen, is one of the best and safest diuretics. In jaborandi or pilocarpin we have a remedy of most unquestionable power, of efficient and extremely rapid action, which is ever ready to hand and requires to be mentioned only with a *caveat*, because in some cases of cardiac dyspnœa it may be open to abuse and danger. Finally, there is venesection, a disused and much abused remedy, but which is still applicable to those cases in a higher degree than any remedy I know; but I dare not open up the question.

Professor LEECH, continuing the discussion, divided the cases of dyspnœa into two groups—those which are chiefly connected with the respiratory apparatus and those of cardiac origin; a third might be added—those connected with hæmatic conditions, either from alterations in the blood or from poisons. The remedies for these cases are widely different. He pointed out the value of the nitrites in lung cases with dry sounds. With a suitable preparation, for instance, nitro-glycerine, he could confidently predict relief. He described the difference between nitrite of amyl and other nitrites. Nitrite of amyl was briefer in its action, consequently not so useful in these cases. In cases of turgidity and moist sounds no relief could be afforded by those drugs. The remedies in such cases were expectorants, such as antimony or lobelia. Regarding the use of chloral or opium he agreed with Dr. Gairdner. The dangers were great in cases of dry rhonchi, and still greater when the sounds were moist. If chloral, however, were given the heart should be carefully watched. He had found ammonia to be of great use in relieving very markedly the craving for air. He also had tried the fumes of various makers. These, on being analysed, were found to contain either nitrites, pyridine or mydriatics. He handed in a table showing this.

Dr. HANDFORD referred to one form of dyspnœa which was of a narcotic origin and closely allied to gout. It depended upon digestive disturbances. That was the dyspnœa which occurred in attacks of megrim.

Dr. HAYWARD remarked that in his earlier days he had been rather frightened with the results of pilocarpine injections, and asked particulars for its use in private practice.

Professor OLIVER said he had observed many cases of pleurisy with effusion where there had been absolutely no dyspnœa, and illustrated this by one case from which twenty ounces of fluid had been removed.

Dr. WILBERFORCE SMITH suggested that "succus belladonnæ" might be used with advantage instead of the fumes.

Dr. PEARCE referred to the use of aconite in the spasmodic form of asthma.

Dr. NORMAN KERR stated that he was a sufferer from dyspnœa and had tried all the drugs to be found in the Pharmacopœia, ranging from whisky to belladonna and aconite. He had generally found the first dose of these drugs to be efficient, but their action was not kept up. He had only taken three medicinal doses of whisky in his life.

Dr. WALKER (Pollokshaws) referred to dyspnœa due to overloaded stomach and bowels, which he had seen cured by the use of strong purgatives. He had also used iodide of potassium combined with belladonna and digitalis with good results. He thought the mistake Dr. Kerr had made with the whisky was that he had not taken enough of it. He recommended him in case of another attack to try it in larger doses.

Dr. SINCLAIR COGHILL divided the remedies into those which were directed to relieve pulmonary asthma and those which were directed to relieve cardiac dyspnœa and reflex dyspnœa. It was a very important thing for the practitioner to have a variety of remedies and if possible to use them with reference to the causes of dyspnœa and condition of the patient. Iodide of potassium was frequently very efficacious, and the late Principal Barclay of Glasgow, who suffered for many years from this affection, was cured by it. Another remedy which he mentioned as being largely used at the Hospital for Consumption at Ventnor was the tincture of the Virginian prune and the compound spirits of chloroform.

Professor GAIRDNER briefly replied and the discussion terminated.

LARYNGOLOGY.

In this Section Dr. MACINTYRE gave an interesting demonstration of Micro-organisms in Throat Disorders. He began by alluding to the term "catarrh" itself, and pointed out that for the most part it was merely a manifestation of something else which caused it. He drew some pictures of typical cases which should be classified under the heading of catarrh, and then passed on to the consideration of the causes of these. He began by referring to the etiology, and made reference to the ordinary conditions which are described in the text-books

as producing or modifying catarrh. He wished to pay special attention, however, to the question of bacteriology, which was influencing so much every branch of medicine and surgery. He pointed out how catarrh may be produced from bodies applied to the external substance of the membrane and from constitutional poisons injected at a distance, and led up to the conclusion that certain agents applied from without and other agents brought from within might result in the production of signs in the throat and nose which, when grouped together, give rise to the term "catarrh." Under favourable circumstances the causes were ultimately cast out and local changes disappeared, but too often secondary changes were set up of a detrimental nature. The etiology was demonstrated by specimens and drawings of all the known organisms which produce a morbid influence and are found in the nose and throat. The important point which he wished to advance was that inflammation and even purulent inflammation might result from the absorption of inorganic materials, of which the best example was afforded by sterilised chemical substances which were the products of micro-organisms themselves. Local inoculations of these products might cause irritation or even death at the part, but they also set up inflammation in the vicinity. Older surgeons got rid of a foreign body and expected the secondary inflammation to disappear. But they knew nothing of microbic invasion, and hence catarrh itself was too often treated instead of the cause. This important point had a great bearing upon the treatment. If catarrh were really a manifestation of disease, and to be interpreted as a method of nature of getting rid of a difficulty, the practitioner's whole efforts ought to be to relieve the cause upon which catarrh depended. Where this could not be done every aid should be given to the *vis medicatrix naturæ*, and there was no use hampering it by applying sprays, gargles or other agents in trying to remove organised structures. The etiology was further referred to with special reference to the various diatheses. Some important points bearing upon anatomy and physiology were noted and the pathology carefully gone into. Special attention was paid to the treatment of secondary results which must naturally follow obstruction to the breathing.

EXHIBITS.

(Continued from p. 278.)

WE resume our notice of the Sanitary Exhibition held at Nottingham last week. At Stall 14 Mr. John Barker of London exhibits an operating table, bed-rests, and orthopædic contrivances. Stall 15: Messrs. J. Tylor and Sons of Newgate-street, London, have a very large and interesting display of closets, Ariston's lavatories and everything appertaining to this department of sanitary science. Stall 16: Mr. G. Jennings of Lambeth, London, exhibits his improved sanitary appliances. Stall 17: Mr. John Greenall, Portland-street, Manchester, shows a large variety of steam washers and laundry specialities. Stall 18: Mr. F. Cook of Nottingham, sanitary engineer, shows a large variety of sanitary apparatus of various kinds, including Messrs. Farmiloes, Twyford, Woodhouse Osborne Company's specialities. Stall 19: Messrs. Sollory and Son, sanitary engineers, Nottingham, have a stall mainly devoted to matters of domestic hygiene, containing Messrs. Bostel's, Farmiloes', Walshe's and others' specialities. Stall 20: Messrs. Quirk and Sharpe of Liverpool show an excellent patent joint which affords one solution to the difficulty of joins for earthenware and metallic drain-pipes. Stall 21: Mr. Joseph Shaw of Huddersfield shows a health water-pipe which consists of a wrought-iron tube lined with block tin. Dr. T. Maccall of Southport exhibits on Stall 22 a portable Turkish bath for use in private houses, hotels, hospitals &c. It is a complete chamber, heated and ventilated, giving a thorough Turkish bath on a small scale. A very neat and pretty display of cycles is made by Messrs. F. Pearson and Son of 12, Angel-row, Nottingham. Mrs. Philip Monkhouse, London, S.W., occupies Stand 24 with her patent Excelsior Bed Lift, as supplied to the Admiralty and leading hospitals. On Stall 25 Messrs. F. C. Calvert and Co. of Manchester are showing quantities of carbolic acid for medicinal, surgical, and disinfectant purposes, preparations from carbolic acid, carbolic soap and carbolic dental preparations. A speciality is the carbolic vaporiser for purification of the air in sick rooms, removal of mosquitoes and other insects, and for general use where an aerial disinfecting and purifying agent is required. Mr. Henry Ellison, jun., of Cleckheaton, Yorkshire, shows on Stall 26 a number of carboline and carbolic disinfecting fluids and powders. Messrs. Thomas Danks and Co., Limited, of Thurland-street, Nottingham, have a large stand (No. 27), on which is a very good display of lavatories of the most approved kind; also a large and varied assortment of ventilators of the newest designs, including Boyle's, Sherringham's, Tobin's &c., a Moule's patent earth closet, designed for houses where a water-supply cannot be obtained; a collection of Cheavin's gold medal filters, the filtering parts of which can be easily removed for cleansing. The Wilson drawing and dining room gas-stoves in all varieties are also on view. In addition Messrs. Danks and Co. exhibit an assortment of the latest domestic appliances, comprising vegetable slicers, revolving graters, boot cleaners, a drip-tin with revolving grid, patent dustbins &c. Altogether the stand makes a most interesting display. Mr. J. Jones of Chelsea shows automatic seal air-tight manhole covers, bag, drain and pipe stoppers, screw expanding drain-plugs, inlet ventilators &c., on tall 28; and Messrs. John Watts and Co. of Bristol exhibit a patent asphyxiator for applying the smoke test to drains for disinfecting purposes and for the destruction of vermin in holes, on Stall 29. The Sanitas Company, Limited, of Bethnal Green, London, show various disinfecting fluids, oils, fumigators, &c., on Stall 30; and No. 31 is occupied by Messrs. Billington Brothers of Liverpool with institution bedsteads, which can be adjusted in various ways. The Longford Wire, Iron and Steel Company, Limited, of Warrington, display some strong wire mattresses on Stall 32. A very nice assortment of earthenware and enamelled goods for hospital use is exhibited by Mr. Fred Henry, of Derby-road, Nottingham, on Stall 33. Stall 34 is occupied by the Leather Rubber Boot Company of Leeds, who display the excellent leather and rubber boots and shoes of Scafe's patent; whilst Stall 35 is tenanted by Messrs. I. and R. Morley of Nottingham, Mr. Darby being in charge. The firm make a very fine exhibition of natural wool pure undyed goods. There are a few white merino articles of pure wool and copper, and there are also silk goods. In some of the cotton stockings the sanitary black dye has been used; this is harmless, clean and fast, so that it does not soil underlinen. The Ceres Automatic letter and card files are seen on Stall 36. The file consists of a box or cabinet of drawers made to any size, and the letters are arranged standing up at a convenient slope against a sliding support, which moves easily by pressure applied at any distance from it, but jams automatically by the slight weight of letters against it. There are movable alphabetical division boards, and the letters are dropped in between them in dictionary order, the letter of the latest date being in front. Mr. J. A. Robertson, jun., of Peterborough, shows a doctor's bicycle on Stall 37 and on Stall 38 Surgeon-Lieutenant-Colonel W. H. MacNamara of Aldershot exhibits a model of a water-closet. The object is to cut off pan and fittings from the interior of the house when the closet is not in use, so that gases escaping from the pan or fittings might escape outside. The Trent Gas Engine Company, Limited, of New Basford, have one of their One Trent gas engines at work on Stall 38. Stall 39 is occupied by Mr. L. Worthington of Westminster, with prize drawings and detailed specification of model lodging-houses for the London County Council. On Stall 40 Messrs. Merryweather and Sons, Limited, of London, exhibit a new patent hydraulic sewer flusher, "microbolisers," and pumps. On Stall 41 Messrs. J. Stone and Co., Deptford, have a glass model of their patent field automatic syphon cistern. On Stall 42 the Nottingham Corporation exhibit water meters, pipes, joints and other fittings; and on Stall 43 the Wales Carriage Engineering Company, Limited, of Sheffield, display an automatic flush tank and hough closet, a high-pressure side valve &c. An account of the museum exhibits is reserved for our next issue.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The annual prizes of £10 and £5 offered to medical students in their third year by the British Medical Temperance Association for a written examination on Alcohol have this year been awarded as follows:—First prize: Mr. D. F. Harris, B.Sc. Lond., of Glasgow University. Second prize: Miss E. J. Moffatt, London School of Medicine for Women. Honourable mentions to Messrs. S. J. G. Carré, F. Chown, W. A. MacKay and M. A. Saltmarsh. The examiners were Professor McKendrick, Dr. Moir, Dr. Morton, Dr. Richardson, Professor Simpson and Professor Sinclair.

ARMY MEDICAL DEPARTMENT REPORT FOR THE YEAR 1890;

WITH APPENDIX. VOL. XXXII., 1892.

[SECOND NOTICE.]

A TABLE is given on p. 22 of the report showing the admissions, deaths, number of men invalided and number constantly sick from each arm of the service in the United Kingdom, with the ratios per 1000 of strength, and, by way of comparison, the corresponding ratios for the previous ten years. From this we gather that the highest admission ratio was in the cavalry, 912·9, the next being 905·8 in the Foot Guards, which stood highest in this respect for the average of the previous ten years. The Royal Engineers appear to have the lowest admission, as well as a low ratio of constantly sick rate. With regard to constant inefficiency through sickness the Foot Guards had the highest ratio, 64·44 per 1000 for 1890, and the average of the previous ten years 58·83 per 1000. As regards the mortality rate, the highest, 6·73, was in the regimental depôts in 1890, as well as on the average of ten years; the lowest ratio was 4·10 in the Household Cavalry, and 4·81 in the Infantry. The Royal Artillery death-rate, 6·45, was the next highest to that of the regimental depôts in 1890. Invaliding was highest in the Household Cavalry and next in the Foot Guards in the same year; and in that preceding and in the decennial average the highest ratios were in the same arms of the service, but their relative position to each other was reversed. Of the battalions of Foot Guards, the 1st Battalion Coldstream Guards, stationed in London, gave the highest admission and constantly sick rates, whilst the 2nd Battalion, stationed four months in London and eight at Windsor, gave the lowest ratios. The highest annual mortality rate, 14·34 per 1000, was in the 2nd Battalion Grenadier Guards; in the 2nd Battalion Coldstream Guards there was no mortality. Invaliding rates ranged from 34·43 per 1000 in the 1st Battalion Grenadier Guards to 15·03 in the 2nd Battalion Coldstream Guards.

The average strength of officers in the United Kingdom, calculated from the annual returns for 1890, was 3963, among whom there were 1553 attacks of illness and 23 deaths. The rate of sickness was 391·9, and that of mortality 5·80 per 1000, a slight increase on the corresponding rates of the previous year.

In an average strength of 10,591 women there were 4349 cases of sickness, exclusive of ordinary parturition, and 61 deaths in 1890, the rate of mortality being 5·76 per 1000. The average strength of the children was 21,371 and there were 10,914 cases of sickness and 493 deaths, being in the ratios of 510·7 and 23·07 per 1000.

As regards the section of the report devoted to recruiting we may remark that nearly half the total number of recruits passed fit for the service were between eighteen and nineteen years of ages; that nearly 14,000 were between 5 ft. 4 in. and 5 ft. 6 in. in height and only 1143 between 5 ft. 10 in. and 6 ft. upwards, out of a total of 33,362 recruits approved; excluding boys enlisted under seventeen years of age, the average age of recruits finally approved during the year 1890 was 19·1 years, the average weight 120 lb. and the average chest measurement 33·5 in. In the two latter respects the corresponding measurements were slightly less than those of the previous year.

As regards the army abroad we must be content to take a few stations as samples and by way of illustration. The health of the troops serving in the Mediterranean during 1890 seems to have been satisfactory. At Gibraltar the death-rate was only 3·22 and 1 had declined by 2·45 per 1000, as compared with the preceding year; and there was also a decline in the admission, constantly sick, and mortality rates, as compared with the corresponding rates for the previous ten years. Enteric fever caused twenty-six admissions and four deaths during 1890, being in the ratio of 5·6 and 0·86 per 1000 respectively. There was, as usual, much inefficiency from a continued form of fever. Some of the cases were severe and suffered frequent relapses; the two deaths recorded under this heading did not present any obvious distinguishing characteristics of enteric fever. Rheumatic complications were frequently met with and convalescence was often very protracted. Influenza appeared in an epidemic form in the early part of the year and caused a large amount of inefficiency. An elaborate scheme of main drainage and water-supply has been put forward for Gibraltar, which has, however, been the subject of some criticism and opposition on the part of the civil population. The sanitary services effected during the year were very numerous, particularly as regards improvements in drainage, ventilation and the concreting of the floors of barracks and huts. The station hospital having been divided and a part handed over to the navy the accommodation for the sick of the garrison has been found insufficient and a proposal for a new station hospital has been put forward. At Malta the average strength for the year was 7055, and the death-rate 9·77 per 1000. There were sixty admissions and twenty deaths from enteric fever, being in the ratios of 8·5 and 2·83 per 1000 respectively. All the cases returned as enteric fever were of a severe type, and it is probable that many of its milder forms were returned as simple continued fever which caused an admission-rate of 85·5 and a death-rate of 1·28 per 1000 respectively, and was characterised by a tendency to frequent and severe relapses and to be followed by rheumatism, sciatica and prolonged convalescence. The principal medical officer considers that on sanitary grounds no soldier under nineteen years of age should be sent from England to any Mediterranean station for duty. One third of the troops during the summer months slept in tents, as heretofore the practice, and with excellent results as regards their health. A large number of wooden huts sent out in the previous year were taken into use and highly approved of. The civil authorities have contributed towards improving the sanitary state of the towns, in which many of the barrack buildings are situated, by the construction of additional large ventilators to the main sewers and improving the ventilation of houses.

At Bermuda enteric fever was very prevalent among the troops stationed there. There were sixty-two admissions and ten deaths, being in the ratios of 40·1 and 6·47 per 1000 from that disease in 1890. The cases were distributed through the garrisons occupied, with the single exception of Ireland Island. The immunity of this place is attributed to free exposure to the wind and to its having little or no communication with the insanitary towns of the mainland. The senior medical officer considers that until the sanitation of Hamilton and St. George's are radically improved, there will be a great liability on the part of soldiers visiting these towns to contract enteric fever. With this cause of sickness and mortality removed Bermuda should be one of the healthiest of the British colonies. It is a popular winter resort with the Americans. The strength of the British troops serving in Egypt was 3209. The relative sickness in Cairo and Alexandria was as follows:—At Cairo, with an average strength of 2304, the ratio of admissions was 913·2 and of deaths 6·51; at Alexandria, with a strength of 905, the rates were for admissions 1185·6 and for deaths 26·52 per 1000 respectively. Compared with the corresponding rate of the previous year there was a decided decrease in the rates of sickness and mortality at Cairo and a marked increase in both ratios at Alexandria. Much of the sickness at the latter station was attributable to the prevalence of enteric fever in the 2nd Battalion Suffolk Regiment, a newly arrived regiment in Egypt.

CYCLING AND VITALITY.

IT was recently announced in the daily papers that a rider had, on an "ordinary bicycle," covered 413 miles in twenty-four hours. The feat seems incredible; and it would be interesting to know what the philosopher who predicted some thirty years ago that a cyclist could never travel faster on two wheels than he could on his two feet would think of this achievement. Anyway the thing has been done, and, what is more, there are many cyclists, men of experience in the art, who look upon it quite calmly, and predict boldly that good as this "record" is, it has been made to be beaten as certainly as it has beaten those which have gone before it. Where is pace in cycling to end? we exclaim. Well, that is impossible to say. We know a cyclist—a member of our own profession—who declares that if he could be protected from the impeding influence of the wind and could be put on a line of railway—properly laid for the purpose—he could, if placed behind an engine tearing away at the rate of twenty-five miles an hour, keep up with the engine for one hour at

least At one of the meetings of the Society of Cyclists, over which Dr. B. W. Richardson presided, he gave a new reading to these feats. He saw in them the first true efforts leading to the practical accomplishment of aerial flight. These are subjects for the future. What we have now to do is to accept what is achieved, and estimate the cost at which the present rapid movements on wheels have been secured: the cost of vitality in the efforts of the rider, less the risk of accidents to which he is subjected.

In the month of May in this present year the value of despatch cycle riding was put to the test, in order to show that military messages can be carried by the relay bicycle more rapidly than by horse riding. A despatch was sent by a bicyclist from General Miles in Chicago to General Howard in New York, over a distance of 1000 miles, with the expectation that the work could be done in 100 hours. It was done in 108 hours, a success that could not have been approached by the best mounted rider on horseback. But again comes the question, At what cost? The cost to the rider is, we say at once, altogether unwarrantable, for during the twenty-four hours in which a rider is occupied in covering 400 miles his heart knows no rest from full activity, and the elastic coat of every artery in his body is in full tension. In some instances such is the tension that the man literally propels himself in what may be called blindness. His legs work automatically and his course is directed in a manner very little different. When a bicyclist was unfortunately killed from an accident caused by fast riding, a witness said, on oath, that the rider was going so fast and was so intent on the race he did not hear witness until it was too late, that is to say, until he got within two yards of a cart into which he ran, when he altered his whole position, called out "Oh!" and coming into collision received the fatal injury. In another instance, where one of the long and sleepless rides was carried out, the rider was seized with vomiting, which never ceased during the whole of the effort. He, too, lost the guiding power of his senses, and for some miles tugged on as if he were blind, tearing away, in fact, in a kind of trance, his higher nervous centres paralysed and his body retaining its life and mere animal power, held living by the respiratory centre and the heart, they also being taxed to the very extremity of danger.

When we, in these columns, tell plain and unvarnished facts of this character, we are sometimes accused of being alarmists. We care nothing for that harebrained stigma. We have our duty to perform, and it is our duty to declare, from a knowledge of the bodily powers and function, that the risk implied, even when there is escape from immediate accident, is dangerous up to the verge of insanity. We do not deny that every now and then a young man in the bloom of health and full of vital energy is able, during his short physical prime, to complete these remarkable feats and stand out for the moment the model of physical power in this one direction of it. Watching him in the plenitude of his strength, his companions will jeer at us and will ask us to tell them whether we can detect in him any demonstrable change for the worse. We are prepared to say "perhaps no," for we have not yet at our command the knowledge and means for detecting the first and minor indications of organic injury from physical strain. We admit, further, in all fairness, that a man may one or more times pass through the strain and not be so much injured as to be left bearing, necessarily, a life so shortened that the period of the shortening will admit of correct measurement. But with so candid an admission we must claim to hold with equal candour the facts that, although we may be unable to determine the infliction of injury by our present refined methods of diagnosis, we have the best and most common-sense reasons, derived from experience, for assuming that the body at any age and in the finest condition cannot be exposed to the strains to which we refer without being oppressed beyond the bounds of safety; whilst we are absolutely certain that the oppression often repeated is of necessity a serious cause of organic degeneration. On this last head experience of the clearest kind is our guide and monitor. We have watched the fate of those who, in the brief period of the history of these violent exercises of strength, have excelled and have run through their short day and generation, and we regret to record that no experience is more painful or more instructive for purposes of warning. Man is not an engine of iron and steel, but an organism of flesh and bone and blood that has to be renewed from day to day and from hour to hour, and his energy is not roughly chemical but vital in its nature; he is constructed for other and nobler purposes than mere engine labour; and if he throws himself into mere engine work he will soon become an engine so disabled that his better self will fall into death before he has reached what in others better trained would be the prime period of vital strength and activity.

THE AMERICAN MEDICAL ASSOCIATION.

[FIRST NOTICE.]

THE recent meeting at Detroit was probably one of the most important and best organised which the Association has ever held. Considerably over 1000 medical men were present from all parts of the States, and not only the general meetings, where what may be called medical politics are for the most part discussed, but also the meetings of the various sections, which occupied themselves with matters of purely professional or scientific interest, were conducted with a vigour and energy which showed how intent the members were on the various matters which had to be discussed. There were in all twelve sections, each with a chairman and a secretary of its own, and although occasionally a meeting of one or more sections had to be adjourned out of consideration for the absorbing interest which surrounded a few of the general meetings the amount of work which was accomplished was by no means small.

The meeting was opened in the Detroit Opera House. The stage was beautifully decorated with flowers and palms, and the house was filled with an audience which was evidently keenly interested in all the proceedings. After Bishop Davies had offered prayer and General Alger had in a few appropriate words welcomed the Association to Detroit the President of the year, Dr. Marcy, of Boston, delivered an address, the subject being "Evolution in Medicine." This somewhat technical title scarcely conveys an adequate idea of the scope and bearing of the interesting address which was delivered. It was indeed more a description of the development of the American Medical Association and an indication in outline of the direction in which it should proceed in the future, with the view of drawing closer together the various associations and societies throughout the country and of strengthening the hands of those who are endeavouring to press on reforms in regard to medical matters. One subject was referred to in the address in which the orator evidently carried with him his entire audience—viz., the proposed establishment of a national board of health presided over by a secretary of public health who should be *ex officio* a member of the Presidential Council. Such a board would take cognisance of all that affects the public health of the community, especially of epidemic and infectious diseases, and there seemed to be a universal consensus of opinion that such a central board would, in coöperation with the State boards of health, be the means not only of enforcing sanitary regulations but also of educating the people to recognise their importance and desirability.

A most interesting and instructive address on Surgery was delivered on the second day by Dr. John B. Hamilton. His subject was "The General Principles of the Surgery of the Brain and its Envelopes," and the plan which he adopted of stating concisely the object and the result of numerous cranial operations carried out by various operators was probably the most telling way of putting his arguments for free interference on general principles with the brain and its envelopes. A glance over the cases enumerated by him is sufficient to show the enormous strides which brain surgery has made in the last few years. At the conclusion of his address he strongly advocated the principle which has been laid down by Horsley and Hayes Agnew, that all depressed fractures, slight or severe, ought to be surgically treated with the view of preventing the too frequent sequel of such accidents—viz., traumatic epilepsy. In this way alone, it was urged, will traumatic epilepsy be satisfactorily grappled with.

The address in Medicine on the third day was delivered by Dr. A. L. Gihon of the United States Navy, who discussed in an admirably suggestive way the relation of bacteria and their products to disease, dwelling especially on the views as to protection against the influence of microbes recently brought forward by Dr. Sternberg of the United States Army, and others.

Such were the addresses delivered to the Association as a whole. We reserve for a subsequent notice a short account of the work of the sections.

PICTURES AND BUSTS IN THE ROYAL COLLEGE OF SURGEONS.

THERE has just been published a catalogue, compiled by Mr. F. G. Hallett, of the portraits and busts in the Royal College of Surgeons of England, with a short biographical notice of each. In the introduction to this catalogue Mr. Hallett writes: "A wish has been expressed on several occasions that a catalogue of the pictures and busts in the possession of the Royal College of Surgeons of England should be compiled, and although from time to time attempts have been made to supply the want, no one has hitherto been able to give the time necessary for searching the minutes and other records of the College. In publishing this catalogue it is hoped that the short biographies may lend additional interest; and although it is not intended that they should be exhaustive, an endeavour has been made to give as complete a record as possible of the appointments held by those who have assisted in creating the history of the College." There is no doubt that the catalogue has not been compiled without considerable research and that the various notices of the distinguished men represented in the College collection are accurate and carefully compiled. There is an index at the end of the catalogue which enhances its value. The catalogue may be looked upon as authoritative as regards dates and events in the lives of those mentioned in its pages. There are some thirty-one busts and thirty-seven portraits in the possession of the College, and various plaster casts of busts, engravings, miniatures, sketches &c. The portrait groups include amongst them one representing His Majesty Henry VIII. granting the Act of Union to the barbers and surgeons, the figures of which are attributed to Hans Holbein; a painting, "The Dissecting-room," by T. Rowlandson, said to represent William Hunter demonstrating to his class in the Great Windmill-street Schoo dissecting-room; a copy of the picture by Rembrandt, in the national gallery of the Hague, of Nicholas Tulp and his pupils; a group of the Council of the College in 1884, painted by Henry Jamyn Brobks. It will not be surprising to find that the memory of John Hunter has been more honoured than that of any other, and we find there is a life-size statue by Weekes, a portrait by Sir Joshua Reynolds, a copy of this by Muller, a miniature copy in enamel of the same picture by Bone and engravings of it by Sharpe; a medallion by Tassie, busts by Harman and Sir Francis Chantrey, a plaster cast of the above, and a pencil portrait by Sir N. D. Holland, Bart. There are busts of their Majesties George III. and George IV., by Sir Francis Chantrey; of the "Right Honourable Lord Grenville," by Thomas Phillips; and of "Dr. Georg Friedrich Louis Stromeyer," by W. Englehard; but with these exceptions we find none but those whose work has contributed to the fame of the Royal College of Surgeons, the names of the majority of whom are known throughout the world. The catalogue is well printed on excellent paper, and leaves nothing to be desired. We understand that the price of the book was fixed at half-a-crown at the recent Council meeting, so it is within the reach of all taking an interest in the College.

INTERNATIONAL CONGRESS OF EXPERIMENTAL PSYCHOLOGY.

THREE years ago the first Congress of Experimental Psychology met in Paris. The second Congress was opened on Monday at University College, London, with Professor H. Sedgwick as President. The Vice-Presidents are Professors Bain, Baldwin, Ebbinghaus, Ferrier, Hitzig, Liégeois, Preyer, Delbœuf, Richet and Schäfer. The honorary secretaries are Mr. F. W. H. Myers and Mr. James Sully. The Congress numbers about 270 members, including distinguished representatives from Germany, France, Holland, Roumania and the United States, as well as from this country.

The feature of the first day was the inaugural address of the President. After welcoming the members of the Congress to this country, more pecially those who formed a connecting link with the Congress of three years ago, he said that the selection of this country for the second Congress, while not in need of any defence, suggested the admission that England rather lagged behind in the matter of experimental psychology—if the term experimental were taken in the narrow but usual sense to denote investigation under artificial conditions. If, however, the term were taken in its wider sense to mean the whole science of mind, so far as it was based upon observed facts, then, looking at the long line of English psychologists from Locke and Hume down to Bain and Spencer, no one, he thought, would contest the claim of England to be regarded as the ancient home of psychology. The term "experimental" for the purposes of the Congress, was to be taken as intermediate in meaning between the stricter and more lax meanings alluded to, so that it included all investigations in which the reasoning was based upon observations methodically pursued for a special purpose, even if they were not in the strictest sense experimental. Reference was made to the connexion between physiology and psychology, and it was pointed out that the antagonism between what may be called the neurological and psychological platforms, which was so strong twenty or thirty years ago, had now to a great extent disappeared, for the crude materialism which refuses any recognition to the results of introspection and the psychology which claims a realm in which psychical processes are unaccompanied by nervous processes are equally out of date. Thus it had now become clear that the issue between materialists and psychologists related to the nature of the causal nexus which linked each successive double fact with physical and psychical antecedents, and consequents. But the empirical psychologist might leave this [discussion on one side and content himself with tracing uniformities among the psychical phenomena which he studied with their physical accompaniments, without entering on the question of their causation. For this task physiology was extremely useful, and they recognised this by constituting a section in the Congress for papers mainly physiological in character. There was also a section for "Hypnotism and Cognate Subjects" and they were fortunate in having so many French hypnotists among them and especially from the Nancy school, where the work had been conducted on the broad lines which have been generally followed in Europe.

The first paper was that of Professor Bain. This dealt with the relations of introspection and psycho-physical experiments as mutual aids in psychology. In comparing the two methods it was pointed out that in the qualitative analysis of mental facts introspection must take the lead; while in quantitative analysis, or the mensuration of psychological quantities, the experiments of psycho-physics can render important service. Researches were enumerated in which the two methods concur, and it was pointed out that in all experiment may come as an aid to introspection, but cannot profitably supersede it.

Professor Grüber of Roumania read an interesting paper on Colour Hearing, explaining, however, that his subject was more extensive than the name implied, as it comprehended all cases in which the stimulus of one sense evoked images belonging to another. Reference was made to the careful observations of these phenomena by Mr. Francis Dalton, and the belief was expressed that the inquiry was still one of purely scientific interest, although the persistency of the phenomena suggested the possibility of a law which might in the future have some practical bearing.

A paper by Professor Ribot was read by Professor Richet, and subsequently one by himself entitled "L'Avenir de la Psychologie." It was pointed out that the first problem of psychology was the physiology of the brain and the imperfect character of our knowledge of this was emphasised. The difficulties of the studies were alluded to and it was pointed out that by means of comparative psychology some light might be thrown on the causes of madness and crime, and in conclusion the importance and vastness of the psychological field were alluded to.

At the meeting of the Congress on Wednesday several important papers were contributed in Section A. These were the more strictly physiological papers. They were as follows:—The Visual Centre in the Cortex of the Calcarine Fissure, by Professor Henschen; the Degree of Localisation of Movements and Correlative Sensations, by Professor Horsley; the Anatomical and Physiological Relations of the Frontal Lobes, by Professor Schäfer; and the Functional Attributes of the Cerebral Cortex, by Dr. Waller.

On the third day papers were read in Section A by Dr.

Verriest, Dr. Mendelssohn, Professor Heymans and M. Binet, and in Section B by Professor Delbœuf, Professor Hitzig and Mr. Myers. In the afternoon Professor Baldwin discoursed on "Sensibility and Will" and reports were given of the Census of Hallucinations. To these we hope to refer more particularly in our next issue.

THE CENTRAL LONDON DISTRICT SCHOOL.

DR. SYDNEY STEPHENSON presented to the Board of this school at their last meeting his third annual report, in which he states that the new buildings for the accommodation of children suffering from ophthalmia, sanctioned by the Board, had been completed and that they had been now occupied by such patients for two years. The greater number of admissions had come direct to the ophthalmic school from the various institutions belonging to the parish of St. Saviour's. The largest group of children, numbering no less than forty-three, were admitted on Nov. 16th, 1891. He advocates the removal of children affected with ophthalmia from the workhouses and infirmaries of London, because no proper accommodation exists for such cases and the treatment is consequently in many instances rendered nugatory. If granular lids were an affection admitting of rapid cure detention of the cases in the metropolitan infirmaries would be a matter of little moment, but the fact that the disease is very persistent meant serious interference with the proper functions of a workhouse or Poor-law infirmary. The ophthalmic school at Hanwell was built specially for its purpose two years ago, at a cost of nearly £30,000, and has accommodation for 134 boys and the same number of girls and of infants. Now out of fifteen available wards only eight were occupied, and the accommodation designed for 400 children contained only 111 ophthalmic cases. The nursing staff, which consisted originally of seven nurses in charge and fifteen assistant nurses, has been reduced to three charge and five assistant nurses. The education of the children is not neglected, one master being appointed for the boys, one mistress for the girls, and one assistant mistress devoting her mornings to the infants. The present arrangements, which have in great measure been thought out and carried into execution by Dr. Stephenson, appear to be excellent; and his report was regarded by the members of the Board as highly satisfactory.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following annual general report of the Committee of Distribution to the Council of the Metropolitan Hospital Sunday Fund has been submitted to and adopted by the Council of the Fund:—

Your committee have the honour to recommend the payment of awards to the 173 institutions enumerated in the appendix to this report (see page 77), being one more than last year, and an increase of sixty-eight since the first awards were made in 1873.

The total amount available for distribution, after allowing for liabilities and the usual current expenses, is £40,228. Of this total £40,118 15*s.* is now recommended to 120 hospitals and fifty-three dispensaries.

Five per cent. of the total collected—viz., about £2000—is set apart to purchase surgical appliances, in obedience to Law XII., in monthly proportions during the ensuing year.

Your committee recommend that all payments to the Fund after Aug. 1st be carried to the credit of next year's Fund.

In compliance with an Order of the Council, and for the special use of its members, tables of statistics have been prepared as usual, showing an analysis of the number of beds in hospitals, the cost of patients both at hospitals and dispensaries, the proportionate expense of management, as well as other valuable information, and copies are sent to every member of the Council.

The number of deputations representing committees of various hospitals &c. invited to confer with your committee and to offer explanations on matters of apparently unsatisfactory character was sixteen. Of these, seven elected to leave their awards entirely in the hands of this committee. Nine were invited to send deputations to meet your committee. Of these, one is recommended for award on its full basis, five on a reduced scale, and three are not considered to be entitled to anything.

Awards are therefore recommended to 157 institutions on their full bases, to thirteen institutions on reduced bases, and three institutions which have made applications are not recommended for any award.

DAVID EVANS, Lord Mayor, President and Treasurer.
SYDNEY H. WATERLOW, Vice-President.

JOHN D. ALLCROFT.	OWEN ROBERTS.
H. COSMO BONSOR, M.P.	W. SEDGWICK SAUNDERS, M.D.
HERMAN HOSKIER.	JAMES WHITEHEAD.
F. H. NORMAN.	ALFRED WILLETT.

Mansion House, July 20th, 1892.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Worcester Urban District.—The death-rate for the city of Worcester during 1891 was 21·6 per 1000 living, the excess over the average being largely due to fatal whooping-cough; but there is also an excess of death amongst infants under one year of age. Some satisfactory method of dealing with the refuse of the city is evidently needed, for it seems to be deposited under circumstances calculated seriously to damage health. The arrangement of the report is inconvenient. It is signed by Dr. Mabyn Read on an early page; then follows an account of the census, remarks on statistics, on notification, disease occurrences, the hospital, water-supply &c.; but there is nothing to indicate their authors. We assume, however, they are written by Dr. Read, since other added matter is signed by the inspector of nuisances and by Dr. Horace Swete. Anyhow, we are glad to learn that the state of the river as a source of drinking water is receiving serious consideration, for this has long appeared to constitute a grave element of risk to the city.

Willesden Urban District.—Dr. Skinner aids his reader by an excellent table of contents. He discusses in some detail the questions of drainage and water-supply, and explains that offensive sewer emanations have been dealt with by means of high shafts. The general death-rate on a population of over 62,000 inhabitants was 13·8 per 1000 last year, and the zymotic rate was 1·6, a result that may on the whole be regarded as satisfactory. But when the zymotic diseases are considered, it becomes evident that the absence of any proper means of isolation is a source of great weakness in the sanitary circumstances of the place, and Dr. Skinner does not go too far when he foretells that possibly there may be an utter breakdown in consequence.

Swinton Urban District.—Dealing with the question of infantile mortality, Dr. Jones refers to the unsatisfactory term "convulsions" in death-certificates, a term which he finds to cover improper feeding, opium poisoning and allied neglect. The report deals mainly with special occurrences of disease and the statistical bearing of these. But it is added that the water-supply is deficient in quantity and not what it ought to be in quality. As so often happens in this neighbourhood, people cling to the antiquated practice of storing up in close proximity to their dwellings and windows heaps of excremental and other refuse to the extent in some cases of "hundreds of cubic feet" per midden. The system is barbarous and some of our northern towns reek with the consequent filthy odour in the neighbourhood of the backs of houses. The general death-rate was 20·1 and the zymotic rate 2·9 per 1000 living, both rates much too high for a small population of under 12,000.

South Shields Urban District.—Dr. Eustace Hill points out that during the year 1891 much active sanitary work was carried out. The notification of infectious diseases came into operation, active steps were taken to improve insanitary property, an assistant inspector was appointed, and a number of the abominable midden privies were abolished. Among the more pressing requirements of the borough are further additions to the inspectorial staff, new by-laws as to build-

ings, slaughter-houses, and offensive trades, and means for isolating cases of small-pox. The latter question is one which involves much difficulty; unless, indeed, some of the schemes by which the infected air of hospital wards is consumed within the building turn out to be feasible in practice. The general death-rate was 22·0 per 1000 living. Infectious cases to the number of 139 were isolated in the borough hospital.

Lytham Urban District.—The population of this district was 4656 at the last census and the death-rate for 1891 was 19·7 per 1000. During the past two years the mortality rate has been excessive, but it is not always right to base too much on a rise, which may be temporary only, in such a small district as this. The zymotic diseases, indeed, caused but little death, whereas epidemic influenza is credited with an excess of deaths. Improvements as to the disposal of sewage are in contemplation and a new mortuary is in prospect. As regards general sanitary administration Mr. A. M. Eason's report must be looked upon as satisfactory.

King's Norton Rural District.—According to Mr. Hollinshead's last annual report the general rate of mortality for last year was 12·4 per 1000 on a population of 28,300, the zymotic rate being only 0·7; indeed this district has for many years exhibited a satisfactory saving of life in connexion with careful sanitary supervision. Scarlet fever was somewhat seriously prevalent, 109 cases being notified; but it is especially noteworthy that 95 of the cases in question were removed to the isolation hospital, and that Mr. Hollinshead is able to report a practical cessation of the epidemic. Drainage works are under consideration; much has been done in this matter as regards individual houses and as to local water-supplies; but the "worst of sanitary evils," the filthy midden-privy system of the old type, remains to foul the air and to constitute an incessant risk of disease. We earnestly endorse Mr. Hollinshead's plea for the abolition of these revolting structures.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6589 births and 2374 deaths were registered during the week ending July 30th. The annual rate of mortality in these towns, which had been 17·9 and 17·7 per 1000 in the preceding two weeks, further declined last week to 17·3. In London the rate was 17·5 per 1000, while it averaged 17·1 in the thirty-two provincial towns. The lowest rates in these towns were 6·3 in Burnley, 10·3 in Brighton, 11·8 in Croydon, and 12·9 in Gateshead; the highest rates were 20·5 in Salford, 20·6 in Leicester and in Wolverhampton, 22·8 in Sunderland, and 25·9 in Liverpool. The 3374 deaths included 585 which were referred to the principal zymotic diseases, against numbers increasing from 477 to 625 in the preceding five weeks; of these, 286 resulted from diarrhœa, 127 from measles, 56 from whooping-cough, 54 from scarlet fever, 41 from diphtheria, 18 from "fever" (principally enteric), and 3 from small-pox. No fatal case of any of these diseases occurred last week in Huddersfield; in the other towns they caused the lowest death-rates in Burnley, Hull, Newcastle-upon-Tyne, and Blackburn, and the highest rates in West Ham, Leicester, Sunderland, Cardiff, and Preston. The greatest mortality from measles occurred in West Ham, Croydon, Birkenhead, Salford, Halifax, and Sunderland; from scarlet fever in Preston; from whooping-cough in Swansea and Nottingham; and from diarrhœa in London, West Ham, Derby, Birmingham, Preston, Leicester, and Cardiff. The mortality from "fever" showed no marked excess in any of the large towns. The 41 deaths from diphtheria included 25 in London, 3 in Liverpool, 2 in West Ham, 2 in Norwich, and 2 in Manchester. Two fatal cases of small-pox were registered in Bradford and 1 in London, but not one in any other of the thirty-three large towns; 6 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 3 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2864, against numbers increasing from 1226 to 2671 on the preceding eighteen Saturdays; 382 new cases were admitted during the week, against 323 and 382 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 185 to 158 in the preceding four weeks, further fell to 155 last week and were 23 below the corrected average. The causes of 55, or 1·6 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Norwich, Bradford, Newcastle-upon-Tyne, and in seven other smaller towns; the largest proportions of uncertified deaths were registered in Croydon, Birmingham, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·2 and 18·4 per 1000 in the preceding two weeks, declined again to 17·5 during the week ending July 30th, but slightly exceeded the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·4 in Leith and 14·3 in Aberdeen to 19·4 in Glasgow and 22·3 in Greenock. The 488 deaths in these towns included 19 which were referred to measles, 14 to whooping-cough, 10 to diarrhœa, 5 to "fever" 3 to diphtheria, 3 to scarlet fever, and not one to small-pox. In all, 54 deaths resulted from these principal zymotic diseases, against 62 and 66 in the preceding two weeks. These 54 deaths were equal to an annual rate of 1·9 per 1000, which was 1·1 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 13 and 28 in the preceding two weeks, declined again last week to 19, of which 11 occurred in Glasgow and 6 in Aberdeen. The deaths referred to whooping-cough, which declined from 27 to 13 in the previous five weeks, were 14 last week and included 11 in Glasgow. The 10 fatal cases of diarrhœa corresponded with the number in the preceding week and included 7 in Glasgow. The deaths referred to different forms of "fever," which had been 2 and 5 in the previous two weeks, were again 5 last week, of which 2 occurred in Glasgow. The deaths from diphtheria, which had been 7 and 5 in the preceding two weeks, further declined last week to 3, of which 2 were recorded in Leith. The 3 fatal cases of scarlet fever also showed a decline from recent weekly numbers and included 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 71 to 59 in the preceding three weeks, rose again last week to 114, and were 49 above the number in the corresponding week of last year. The causes of 44, or 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·2 and 19·8 per 1000 in the preceding two weeks, rose again to 28·3 during the week ending July 30th. During the first four weeks of the current quarter the death-rate in the city averaged 23·5 per 1000, against 18·2 in London and 16·4 in Edinburgh. The 190 deaths in Dublin during the week under notice showed an increase of 57 upon the number in the preceding week, and included 8 which were referred to measles, 3 to diarrhœa, 1 to whooping-cough, 1 to "fever," and not one either to small-pox, scarlet fever, or diphtheria. In all, 13 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 3·7 in London and 1·2 in Edinburgh. The fatal cases of measles, which had steadily declined in the preceding six weeks from 27 to 7, were 8 last week. The 3 deaths referred to diarrhœa were within 1 of the number in the previous week. During the first four weeks of the current quarter the rate of mortality in Dublin from the principal zymotic diseases has not exceeded 2·2 per 1000, while it averaged 4·9 per 1000 during last quarter. The 190 deaths registered last week in Dublin included 35 of infants under one year of age and 41 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the number recorded in the preceding week. Ten inquest cases and 9 deaths from violence were registered; and 75, or more than one-third, of the deaths occurred in public institutions. The causes of 21, or 11 per cent., of the deaths in the city last week were not certified.

CALCUTTA.

According to the latest reports from Calcutta—viz., the health officer's sick return for the week ending May 28th

last—the total number of deaths registered was 206, against 219 and 270 in the two preceding weeks, and lower than the corresponding week of last year. There were 37 deaths from cholera, against 39 and 55 in the two preceding weeks; only 1 death from small-pox and 3 from tetanus. The general death-rate of the week was 23·0 per 1000 per annum against 20·1, the mean of the last five years. The total number of deaths in the amalgamated area of suburbs for the same week was 119. There were 16 deaths from cholera against 44 and 38 in the two preceding weeks; the number is lower than the average of the past three years. There were no deaths from small-pox. The general death-rate of the week was 28·8 per 1000 against 31·2, the mean of the last three years. The general death-rate of the combined area is equal to 24·8.

THE SERVICES.

NAVAL PRACTICE IN THE LANDING OF WOUNDED.

OUR contemporary the *Army and Navy Gazette* reports that recently and for the first time in the German Navy there has been a special exercise in the landing of wounded. The experiment took place at Kiel in the presence of the Emperor and the Grand Duke of Mecklenberg-Schwerin. Admirals Von der Goltz and Knorr with Dr. Wenzel, surgeon-in-chief to the Imperial Navy, were officially present. The idea was that the squadron had just suffered heavy loss in an engagement and that four line-of-battle ships had arrived at the port each with 500 wounded. The wounded were transferred to four steam transports and carried, under the care of the naval surgeons and attendants to four appointed places on shore, where they were placed in ambulance waggons and taken to the hospitals. This manœuvre in medico-naval drill is said to have been well and promptly executed.

MAGAZINE RIFLE FIRE.

The Intelligence Department of the Horse Guards has published a paper giving details of the experiments recently carried out at Spandau to illustrate the effect of German rifles. The experiments were undertaken at the suggestion of the Surgeon-General of the Army and conducted in the presence of a number of army surgeons.

MOVEMENTS OF THE MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel Ferguson has arrived from Gibraltar and been posted to Portsmouth for duty. Surgeon-Lieutenant-Colonel Barrow has arrived in England on completion of a term of service in Hong-Kong. Brigade-Surgeon Temple has been appointed to succeed Surgeon-Major Roe on the recruiting staff of the London district. The deaths of Surgeon-Captain W. H. Bennet and W. H. Ball are reported. Surgeon-Major Wolseley has arrived at Chester for duty and Surgeon-Captain Wills at Burnley. Brigade-Surgeon-Lieutenant-Colonel Kilroy has been transferred from Limerick to Dublin. Surgeon-Captain Hubbard has joined at Woolwich from the Western district. Brigade-Surgeon-Lieutenant-Colonel Maunsell has left Mauritius for England on being relieved by Brigade-Surgeon-Lieutenant-Colonel Clapp. Surgeon-Major Chester has resumed his duties in Egypt from leave. Surgeon-Captain Swan has reported himself in Dublin on return from temporary duty.

For the first time, as we believe, for many years, the ratio of competitors for the British and Indian Medical Services, severally, is the same, there being two candidates for each appointment. There can be no doubt that the issue of the new rule limiting the number of occasions on which a candidate may compete to two for each Service has kept down the supply of competitors by excluding several who had no chance of success, and probably to this fact rather than to any decline in the popularity of the Services may be attributed the reduction of the aspirants.

ARMY MEDICAL DEPARTMENT.

Brigade-Surgeon-Lieutenant-Colonel William Johnston, M.D., leaves on retired pay (dated Aug. 3rd, 1892).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major George S. Elliston to be Surgeon-Lieutenant-Colonel (dated Aug. 3rd, 1892). Brigade-Surgeon-Lieutenant-Colonel J. S. MacAdam, Army Medical Staff, attains the age of fifty-five on the 3rd inst., and will be placed on retired pay. The Commander-in-Chief has sanctioned an exchange between Captain J. Flint, 1st Dragoon Guards, and Captain H. P. Levita, 4th Dragoon Guards. Major G. V. Ames, 1st Dragoons, is, on the completion of seven years' service as a Regimental Major, accepting promotion to a half-pay Lieutenant-Colonelcy. Brigade-Surgeon-Lieutenant-Colonel W. Johnston of the Army Medical Staff, is retiring from the Service. Surgeon-Lieutenant-Colonel C. E. Dwyer, now with the Medical Staff in London, has been ordered to join the staff in Ireland. The following Surgeon-Captains of the Army Medical Staff, having completed, on the 31st ult., twelve years' service, attain promotion to the rank of Surgeon-Major:—G. H. Sylvester, W. J. Macnamara, D. O'Sullivan, E. O. Milward, C. R. Woods, M. F. Macnamara, J. O. G. Sandiford, R. L. Love, H. W. Murray, M. W. Kerin, A. Peterkin, J. Harran, E. L. Maunsell, W. Heffernan, R. W. E. H. Nicholson, J. G. W. Crofts, W. Dugdale, D. L. Irvine, E. R. Cree, M. O'C. Drury, J. H. Nicholas, D. F. Franklin, and H. Saunders.

INDIAN MEDICAL SERVICE.

Surgeon-Lieutenant-Colonel S. M. Salaman, M.D., and Surgeon-Captain H. W. Stevenson respectively delivered over and received charge of Yerrowda Central Gaol on July 5th, 1892. Surgeon-Captain J. K. Kanga, of the 17th Regiment Madras Infantry, to the officiating Medical Charge of the regiment. Brigade-Surgeon-Lieutenant-Colonel S. B. Hunt, Surgeon, 3rd district, to be officiating Principal Medical Officer, Rangoon district during the absence on furlough of Surgeon-Colonel C. Sibthorpe. Surgeon-Major J. Anderson, M.B., Civil Surgeon, Bareilly, is appointed to be in Visiting Medical Charge of the Budaun district during the absence on leave of Surgeon-Major J. C. C. Smith, M.B. Surgeon-Captain H. E. Drake-Brockman, Civil Surgeon, is transferred from Etah to Mirzapur, on being relieved by Mr. W. H. Harding. Surgeon-Captain C. H. Leet Palk is appointed to be, from May 17th, 1892, Civil Medical Officer, Mandalay Shore, in addition to his military duties, vice Surgeon-Captain S. C. Dallas, transferred. Surgeon-Captain W. D. Sutherland is appointed to be, from April 21st, 1892, Civil Medical Officer, Fort White, in addition to his military duties, vice Surgeon-Captain C. L. Williams, transferred. Surgeon-Captain H. W. Pilgrim, Second Resident Surgeon, Presidency General Hospital, is appointed to act as First Resident Surgeon of that institution during the absence on leave of Surgeon-Captain J. H. T. Walsh, or until further orders.

Brigade-Surgeon-Lieutenant-Colonels Flemming and Cullen have been awarded the two extra pensions of £100 per annum allotted to Bengal during 1892–93, both having recently retired from service.

Surgeon-Captain Wilson, Indian Medical Service, died at Mandalay of cholera. This is the third officer who has died at Mandalay within the fortnight.

NAVAL MEDICAL SERVICE.—Surgeon Eric E. Kershaw to the *Nelson*, lent (dated July 26th, 1892).

VOLUNTEER CORPS.—*Artillery:* 6th Lancashire: Surgeon-Lieutenant R. H. Jones resigns his commission (dated July 30th, 1892).—1st Cheshire and Carnarvonshire: Surgeon-Lieutenant D. L. Hubbard resigns his commission (dated July 30th, 1892).—*Rifle:* 2nd Volunteer Battalion, the East Yorkshire Regiment): Surgeon-Captain W. Stephenson to be Surgeon-Major (dated July 30th, 1892).—4th Volunteer Battalion, the Cheshire Regiment): Surgeon-Captain K. Maclean resigns his commission (dated July 30th, 1892.—1st Volunteer Battalion, the Duke of Wellington's (West Riding Regiment): Surgeon-Lieutenant E. D. Wellburn resigns his commission (dated July 30th, 1892).

THE LATE SURGEON-GENERAL H. W. BELLEW, C.S.I., C.I.E.

We regret to announce the death of this officer of the Indian Medical Service at Farnham Royal, Bucks, on the 26th ult., aged fifty-seven. He was a distinguished Oriental scholar, a man of indomitable energy and industry, a great traveller, and well known as an able political officer and linguist. His career was altogether a remarkable one, and worthy of the Anglo-Indian school to which he belonged. He had a great taste for historical, antiquarian, and ethnological subjects, an aptitude for acquiring languages and a keen appetite for hard work of any kind. The services of a political nature he rendered to the Indian Government were so many and marked that it is surprising that they did not attract more notice and receive greater reward. He was the son of the late Major H. W. Bellew, Assistant Quartermaster-General of the Indian Army. In 1854 he went to

the Crimean war, and in 1856 to India, where he joined the Guides, and was sent on the mission to Candahar, of which he subsequently published an account. He did good service in the Ambeyla campaign. In 1871 he accompanied Sir Richard Pollock on a political mission to Seistan and proceeded to the Persian capital. In 1873–74 he went on the Embassy to Kashghar and Yarkand. Selected for the purpose by the late Lord Lytton, he filled the post of chief political officer at Cabul during the Afghan war in 1879. He possessed and exercised much influence with the hill tribes. He was afterwards Sanitary Commissioner for the Punjab, and in 1885 he published a large volume of nearly 1000 pages on the history of cholera in India, but it was not as a doctor that he won his spurs and his name. His published works were "From the Indus to the Tigris," a narrative of a journey through Belochistan, Afghanistan, Khorassan and Iran in 1872, with a grammar and vocabulary of the Brahoe language; "Kashmir and Kashghar," a narrative of the journey of the Embassy; "The Races of Afghanistan"; and a dictionary and grammar of the Pukkhto—or Pukshto—language. The late Surgeon-General was married to a sister of that thorough soldier, General Sir Charles MacGregor, whose relatively early death in Egypt a few years ago was regarded as a great loss to India.

THE LATE DR. JOHN FORBES WATSON.

We regret to announce the death of Dr. Forbes Watson, M.A., M.D., LL.D., on the 29th ult., after a protracted illness. The late officer belonged to the Bombay Medical Service, which he joined in 1850. He was educated at the University of Aberdeen, of which he was a graduate. Whilst in India he served on the Scinde frontier and afterwards filled the post of lecturer on Clinical Medicine at Grant College, but ill-health compelled him to return to England. At home he took up a number of questions—all of some public utility and some of them important. On his recommendation a commission was appointed to inquire into the nutritive value of the food grains of India. A large amount of valuable information was obtained, which led to several practical reforms. In 1858 he was appointed reporter on the products of India and director of the Indian Museum, and he acted as referee to the Secretary of State on all questions connected with Indian products and manufactures. He took an active part in most of the international exhibitions of late years, and his labours in this and other respects connected with India and the Indian Museum prepared the way for the Imperial Institute. In 1879 his department was broken up and he retired from the service. He was a man of scientific attainments and great knowledge of all subjects connected with India, more especially in relation to its industrial, commercial, artistic and ethnological aspects.

GUARDS BARRACKS AT BERLIN.

The Army Medical Blue-book just published contains a paper on the progress of hygiene for the year 1891 by Brigade-Surgeon-Lieutenant-Colonel J. Lane Notter, Professor of Military Hygiene at Netley, in which, among other subjects, allusion is made to the barracks of the 3rd Regiment of Guards at Berlin. The barrack buildings enclose a large square, which serves as a parade ground. They are described as compact and well built and arranged on the corridor system—i.e., all the rooms open on to corridors running the whole length of the building. The rooms are small and do not appear to be well ventilated. The men sleep in cots arranged in double tiers on one side of the room. The only ventilation aperture seems to be in the lower panel of the door opening on to the corridor and the openings of the windows. The allowance of air space for each man is not more than 16 cubic metres.

ARMY MEDICAL SCHOOL, NETLEY.

The sixty-fourth session of this school was brought to a close last week, when the distribution of prizes took place, Colonel Hanning Lee, late Assistant-Adjutant-General, Netley, performing the ceremony. The proceedings were carried out in the Lecture Theatre of the Royal Victoria Hospital, in the presence of a numerous gathering of the staff connected with the hospital, together with the ladies of their families and friends of the Army Medical School, including Colonel H. A. Bushman, C.B., Assistant-Adjutant-General; Surgeon-Major-General G. L. Hinde, C.B., Principal Medical Officer; Sir Joseph Fayrer, K.C.S.I.; Sir Thomas Longmore, C.B.; Surgeon-Major-General S. A. Lithgow, C.B., D.S.O.; Surgeon-General Crookshank, Deputy-Surgeon-General H. Cayley, Surgeon-Colonels Hamilton and Godwin; Lieut.-Colonels Haldane and Stokes and the other members of the Army Medical Staff stationed at Netley. Professor J. Lane Notter announced that all the gentlemen who presented themselves at the recent examination, both for the Indian and British services, had qualified for commissions. He then read the following lists of Surgeons on probation who were successful at both the London and Netley examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions are determined by the marks gained in London added to those gained at Netley.

INDIAN MEDICAL SERVICE (Seventeen).

	Combined Marks.		Combined Marks.
*Haig, P. B.	6062	Smith, G. M'I. C.	5418
Fullerton, T. W. A.	5908	Earle, H. M.	5388
†Maddox, R. H.	5841	Hulbert, J. G.	5237
‡Hugo, E. V.	5819	Swinton, F. E.	5172
Melville, H. G.	5786	Burnett, S. H.	5168
Hubbard, A. O.	5631	Jackson, T.	5102
Robson-Scott, C. G.	5504	Gabbett, P. C.	5076
Smith, H. A.	5450	Macrae, J. L.	4603
Green, D. R.	5428		

* Gained the Montefiore medal and prize of 20 guineas, with the Martin memorial gold medal and the prize in clinical medicine presented by Surgeon-General W. C. Maclean, C.B.
† Gained the De Chaumont prize in hygiene.
‡ Gained the prize in pathology presented by Sir Joseph Fayrer, K.C.S.I.

BRITISH MEDICAL SERVICE (Twenty-five).

	Combined Marks.		Combined Marks.
†Hinge, H. A.	5660	Erskine, W. D.	4807
*M'Naught, J. G.	5646	Thompson, A. G.	4796
Bray, H. A.	5641	Chambers, A. J.	4793
M'Dermott, T.	5515	Moore, G. A.	4682
Slayter, E. W.	5341	Lewis, R. C.	4638
Thurston, H. S.	5191	Austin, R. F. E.	4612
More, L. P.	5042	O'Reilly, W. H.	4552
Hodgens, C. O'C.	4944	Marder, N.	4493
Tyrrell, A. F.	4889	Condon, E. H.	4476
Ryall, W. F.	4851	Mansfield, G. S.	4433
Jones, T. P.	4843	Faichnie, F.	4399
Walker, G. S.	4833	Read, H. W. K.	4397
Smyth, W. J.	4820		

* Gained the Herbert Prize of £20.
† Gained the Montefiore Second Prize.

Colonel Hanning Lee then distributed the prizes and said he should like to thank the Senate and officers and members of the school for their kindness in asking him to come to present the prizes. He hoped that every officer he saw before him, whom he was sorry to part with and whom he sincerely congratulated, would be far more successful even than they had been at Netley. Dr. Allchin pointed to the different circumstances under which the profession was learnt by the private and the military doctor and alluded to the disadvantages met with in civil practice as compared with military practice. Sir Joseph Fayrer also spoke and, in the course of some eminently practical remarks, paid a touching tribute to the memory of the late Sir William Aitken, whose form, he said, seemed to rise before him there. The guests then adjourned to the Medical Staff Mess for afternoon tea.

THE CHAIR OF PATHOLOGY AT NETLEY.

We have already directed attention to the question of the professorships at Netley as affecting the interests of both the Army Medical Service and its school; and we then said that it seemed to us to be distinctly in the interest of the public service that such professorships should be regarded as prizes for medical officers who should be encouraged to develop a high standard of professional knowledge, and qualify themselves for appointments in their own special institutions. If we may judge from the communications we have received on the subject of the appointment of the late Sir William Aitken's successor at the Army Medical School it is causing strong dissatisfaction in the minds of many medical officers. Against the personal, scientific and professional qualifications of the gentleman nominated there is not a word to be said; they are undoubtedly of a high order; but that is not the question; it is one of principle. It is not pathology in its general sense, such as is taught at our medical schools and Universities, that is the point at issue; the appointment at Netley is a special one and has for its main object the consideration of climatic and other forms of disease incidental to military life and service, concerning which, it is urged, army medical officers must be better qualified, from the nature of their duties and personal experience, to speak than a civilian without these advantages. The views of the founders of the Army Medical School were

evidently in accordance, too, with those we have expressed above. At the time the school was moved from Chatham to Netley, early in the year 1863, they reported they were all agreed that the professorships should be held by army medical officers when men of sufficient competence offered themselves, and they trusted that they would all be so held when it could be done with advantage to the school. These views received the approval of the then Secretary of State for War. The question about the successorship to a post at Netley resolves itself, therefore, into whether there are medical officers of sufficient competency in the army or among those who have retired from it. It cannot, surely, be seriously maintained that among the ranks of the Indian and British medical services no one could be found to fulfil all the requirements of the post in question.

Correspondence.

"Audi alteram partem."

CLASSICAL CULTURE AND THE PROFESSION.

To the Editors of THE LANCET.

SIRS,—I hope it may not be thought captious, as it certainly is not superfluous, to point out an important error into which Professor Cuming has been betrayed in the course of his admirable Address in Medicine at the late meeting of the British Medical Association. "I come to bury Cæsar, not to praise him" is a text which would fairly describe Professor Cuming's attitude towards the two learned languages which for so many centuries have formed the basis and the instrument of intellectual culture throughout Europe, and which are inextricably interwoven with the structure of all scientific language—not least with that of Medicine itself. Still it may be that the tendency of events is, as Dr. Cuming alleges, that the mental condition of our professional successors will be one of complete denudation as regards all knowledge of Greek and Latin, as well as of Chemistry. These are debateable points, and I trust their realisation may be as far distant as the exhaustion of our coal fields or the approach of a glacial epoch; but that to which I desire to call attention is not debateable, though it is unfortunately obscured by certain inveterate and long-standing prepossessions in the minds of the educated public. "Greek seems doomed past recall," says Dr. Cuming: "Latin will make a harder fight to retain its place, and will probably succeed in retaining it." Now, these are certainly very curious *obiter dicta* on the part of a speaker who shows so much evidence of learning and culture as Dr. Cuming, seeing that Latin is a hopelessly dead language, while the tongue of Greece is as much alive and as unbroken in its continuity as that of England. Greek at the present day is not only the national speech of the Hellenic kingdom, but is the universal daily medium of communication throughout the east of Europe and a large part of Asia; in Egypt it is more generally spoken than any language except Arabic; numerous excellent journals possessing a wide circulation are printed in it, and it can boast a considerable current literature both in serial and book form. A distinguished Hellene has lately translated the whole of Dante's "Divine Comedy" into Greek, and this very year the University of Edinburgh has established a fund for the purpose of enabling a certain number of its students to go to Athens to acquire the native tongue. These facts do not look like the symptoms of approaching dissolution, but, on the contrary, betoken healthy growth and vitality; and I hope they may serve as an adequate excuse for my entering a *caveat* against Professor Cuming's too sweeping generalisation that "Greek seems doomed past recall."

I remain, Sirs, your obedient servant,

Sussex Gardens, July 31st, 1892. T. FITZ-PATRICK.

VACCINATION AND PUBLIC SCHOOLS.

To the Editors of THE LANCET.

SIRS,—It may possibly prove interesting to some of your readers to learn the result of an inspection of a large number of children attending the public elementary schools of this town. The Cardiff board of guardians, having received information that small-pox in an epidemic form had occurred in various parts of the kingdom, instructed the public vaccinators to visit the schools and inspect the children's arms with a view of discovering those who had escaped vaccination. The School Board and the managers of the sectarian schools readily gave their assent to this course, and the various masters and mistresses cordially assisted me in my work. Altogether the number of children inspected by me amounted in round numbers to 8000, and the total number of those children who had no marks whatever amounted to 270. The parents of these were communicated with by the vaccination officer, and most of them have complied with the notices served on them. In addition to those who had no marks of any kind there were at least 15 per cent. of the total number who had either very imperfect marks or only one or two well-defined marks. Although the latter could not be said to be well protected, it was thought advisable only to recommend their parents to have them revaccinated. I apprehend there would have been some difficulty if these imperfectly vaccinated children had been ordered to be vaccinated again. It was an easy matter to distinguish those children who had been vaccinated at a public vaccination station from those who had been done by private practitioners. I am more than ever convinced that all vaccination should be in the hands of gentlemen specially appointed for the purpose and who should at the same time be restricted from practising any other branch of the medical profession. Until some scheme of that kind is adopted we can never expect to find the public properly protected from the ravages of small-pox. At the present time private practitioners are somewhat jealous of the public vaccinators; but if they (the private practitioners) could be assured that there was no chance of their patients being interfered with this jealousy would soon cease to exist. There would not be any great difficulty in carrying out such a scheme if the medical profession were in favour of it. The public must not have any ground of complaint. Their children would not be operated upon unless the sanction of their family doctor had been obtained, and they would have the satisfaction of knowing that the operation had been thoroughly well done. Those who wished to have their children done privately could still do so on paying a stipulated fee, and it would be easy to arrange for vaccination direct from the calf at regular times.

I am, Sirs, yours faithfully,

Cardiff, July, 1892. T. GARRETT HORDER.

THE DIAGNOSIS OF HEAD INJURY FROM DRUNKENNESS.

To the Editors of THE LANCET.

SIRS,—In looking over some of the back numbers of THE LANCET I notice an article by Dr. J. H. Waters (Sept. 26th, 1891) regarding the difficulty of diagnosis of head injury in police practice and his method of removing the effects of alcohol sufficiently to permit of a diagnosis. As he suggests, a cell, or even a police station, is not a good place to form a correct diagnosis, and the frequency with which one finds symptoms very much obscured by alcohol is well known to police surgeons. A method which I employed while engaged in a very active emergency service in New York City, and which to-day is in extensive use in this class of cases, answers every purpose desired, and is more easy of application and devoid of the danger attendant upon the inhalation of ammonia. By pressure upon the supra-orbital notches, compressing the nerve, a diagnosis of alcoholism may with absolute certainty be made in a few seconds, thus differentiating on the spot between coma due to alcoholism, injury or disease. Where no result is obtained, one may, with almost positive certainty, look for some other cause of coma. In no case have I failed with this method, and so certain became I of its infallibility that, without waiting to further examine for head injury where no result was obtained, I took the patient to the hospital sure of a "case." A case of alcoholism pure and simple will, upon the application of this pressure, immediately show very evident signs of life, and, be the coma ever so deep, the effect of the alcohol will for a short time be sufficiently removed to permit a thorough and rapid examination. The absence of result from this method should at once cause great suspicion of some cerebral trouble due to injury or disease. I would add, that to quiet hysterical convulsions,

in hiccough, in alcoholic mania and for the detection of malingerers, there is, to my mind, nothing superior.

I am, very truly yours,

L. L. VON WEDEKIND, M.D., U.S. Navy.

U.S. Naval Hospital, Chelsea, Mass.

PERFORATION OF INTESTINE IN TUBERCULOUS PERITONITIS.

To the Editors of THE LANCET.

SIRS,—The interesting paper by Drs. Fenwick and Dodwell, which appeared in THE LANCET of July 16th and 23rd has recalled to my mind a paper I read before the Leeds and West Riding Medico-Chirurgical Society two winters ago on "Four Cases of Tuberculous Peritonitis, three being treated by Operation," and some suggestions I ventured to make upon them. Two of the cases, one operated upon by Dr. Kilner Clarke and the other by myself, died, the first some six weeks later of fæcal fistula, which developed before the abdominal incision had healed my own case, some months after operation, rupture of the intestine and of the abdominal wound occurring three months after the latter had soundly healed and the patient had been going about. In my case and another on which I successfully operated about the same time diarrhœa was a marked symptom, which nothing in the way of treatment seemed to control. Immediately I had cleaned out the abdomen, however, the diarrhœa ceased and did not recur, the recovery being uninterrupted. I asked if this was commonly the case and if it was unreasonable to suppose that the presence of pus in the peritoneal cavity had not set up such irritation of the intestine as would encourage a settlement of bacilli in an exhausted area, which would be more liable to fall a prey to the germ under these conditions. That there is a close physiological connexion between the peritoneum and the intestines there can be no doubt, and, directly or indirectly, the bowels remove the fluid collections from the peritoneal cavity as from other parts of the body. The singular and immediate cessation of diarrhœa in these and other cases of the operation, the steady improvement in most up to a certain point, seem to lend plausibility to the idea that the intestine being relieved from its overwork is either protected from the formation of a tuberculous ulcer, or is enabled to throw off the disease and recover itself if the products of tuberculous inflammation are removed from the peritoneal cavity before the process has gone too far. In the two cases first quoted this was evidently not the case, but in the second case it was almost done soon enough.—I am, Sirs, yours truly,

GEORGE A. HAWKINS-AMBLER, F.R.C.S. Edin.

July 20th, 1892.

"THE SMOKE NUISANCE IN LONDON."

To the Editors of THE LANCET.

SIRS,—So far from an apology being necessary for introducing at this season the subject of the smoke nuisance in London, I think the community should thank you for the timely remarks of your leading article, for it is now that one of the chief remedies indicated can be most easily applied—the substitution, namely, of gaseous for solid fuel in our houses. Everyone who takes an interest in this important question is aware that many methods have been proposed for obviating the intolerable evils of London smoke fogs. But of all these there can be no doubt, it seems to me, that, according to our present knowledge, means and opportunities, the adoption of gas fires is the most feasible, and one which there is no difficulty in applying during the summer months, when fires are not being burnt. If householders are to wait before adopting a new plan till some ideally perfect substitute is invented for the barbarous and wasteful coal fire, the Greek kalends will be here before London is freed from its annually thickening pall of winter filth. I would therefore urge every inhabitant of this great city to combine to relieve it of what is little short of a disgrace to its appearance and a slur on its reputation. This could be done by bringing pressure to bear on the County Council and the metropolitan M.P.'s, whose successful endeavours would stamp them as true public benefactors. It is wonderful that enthusiasm has not been already aroused. The evils of London smoke and smoke fogs are universally admitted and bewailed: the damage to valuable books, furniture and pictures, the grimy appearance of our public edifices, the greasy black mud of our streets, the flight of wealthy people from town for many months, the gloomy depressing skies, the choking atmosphere, the pallid looks of the regular denizen, the direct injury to health, increased mortality, the interruptions to traffic, the loss to trade, the dangers of accident, the encouragement of crime, the diminution of sunlight, the consequent decrease of animal and vegetable vitality and other almost innumerable bad results. Is it not strange, then, that the community, though loudly complaining, takes no active steps to heal this ever-magnifying sore? London, which from its size, wealth, position and constitution, is the leading city in the world, seems content at the same time to remain, at least during winter, the most hideous and repulsive. I would appeal especially to the medical profession, which in the past has conferred such immense boons on the people by teaching the remedy for various dangers to the public health, to continue its philanthropic efforts in dealing with the nuisance of London smoke. The field may be wide, but it is worthy the attention of scientific men. There is no reason why the metropolis should not all the year round be one of the fairest and most attractive of towns, and it is equally certain, while coal is consumed in our grates, that it will remain the very reverse.

I remain, Sirs, yours faithfully,

Thurloe-place, S.W., July 26th, 1892. H. R. OSWALD, M.D.

"THE SIGNIFICANCE OF FLY BITES."

To the Editors of THE LANCET.

SIRS,—Having read your annotation on the above subject in THE LANCET of July 23rd, I think the following case may be of some interest to your readers.

S. W——, aged twenty-five, was admitted to the Devon and Exeter Hospital on July 11th, under Mr. Bell, with the following history. He was a compositor by trade. Eight days previously, when at a beanfeast, he was bitten on the proximal phalanx of the left index finger by a fly, presumably a gad-fly. No notice was taken at the time, but the finger began to swell and the wound to ulcerate, and for three days before admission he had had great pain. On admission the man looked very ill indeed. Temperature 103·6°; respiration 60; perspiring freely. On the finger was a yellowish sloughing wound the size of a two-shilling piece; the hand was swollen and œdematous; there was well-marked cellulitis up the arm; no swelling in the axilla. Examination showed pleurisy at the left base of the lungs. Mr. Bell made free incisions into the arm and wound and ordered copious stimulation; but in spite of all efforts the patient died within eleven hours of admission, apparently of acute septicæmia. Post-mortem examination showed a very fluid condition of the blood and all the organs macroscopically healthy, with the exception of the lungs, which were riddled with very large infarcts and where there was extensive pleurisy at the base. The case is interesting in view of the sad occurrence reported in a former number of THE LANCET.

I am, Sirs, yours faithfully,

Exeter, July 26th, 1892. G. STEWART ABRAM, M.B., B.C.

"CURES" FOR INEBRIETY.

To the Editors of THE LANCET.

SIRS,—Since Dr. Keeley's letter in your issue of July 30th utterly fails to deal with the real question at issue, I fear that most of your readers will consider it unworthy of any reply. As, however, he has introduced my name rather prominently therein and as entire silence on my part might under the circumstances seem strange, perhaps you will be good enough to grant me space for a few words. What I would say to Dr. Keeley is this: If his remedy is a genuine cure for inebriety, and on his own showing it has been used for thirteen years, why does he not prove its efficacy to the satisfaction of the profession in Great Britain by submitting it fairly and openly to the opinion of a committee of British physicians? Does he imagine for one moment that such a committee would refuse to recognise his work or the merits of his drugs, providing the claims he aims at establishing are sustained? Let Dr. Keeley approach the leaders of the profession here in a proper spirit, and he may rest perfectly assured of fair and unbiased treatment. Either his remedies are really useful and deserve praise, or they will not stand the light of investigation.

With regard to the latter alternative I need not proceed further. If the remedies are valuable, then the maintenance of the secrecy now shrouding them is, both professionally and scientifically, indefensible. Analyses, reported here and in America, have failed to detect gold in the composition of the mixtures sold, so that a lack of confidence in the whole system has arisen.

With regard to the charges of inaccuracy which he endeavours to advance as to the narrative of my visit to Dwight, I may mention that I propose dealing with that matter in my work on "Alcoholism and its Treatment," which will be published in a few days. Without bandying words with him, however, I beg to say that it is entirely incorrect that I have said that "three eastern physicians visited Dwight while I was there," &c., or "that I went there to purchase the right of using his remedies in Australia." If I had found that a new and successful treatment was in use there under the same circumstances of openness and professional rule as elsewhere, I should have been quite prepared to bring such treatment before the profession in Great Britain and Australia. I went to the place with that purpose in view and was disappointed with what I found. During the conversation with Dr. Keeley at Dwight he intimated that he would get his nephew (Dr. Keeley) to take me to the treatment hall. A little later we passed into the main building and met Dr. Blaine, "chief of staff," to whom Dr. Keeley introduced me. I accompanied Dr. Blaine to the treatment hall, the nephew having gone out. If Dr. Blaine was an "Irish bottle washer," he deserves praise for the position he has attained to. On the other hand, if he still is entitled to be called a "bottle washer" and fulfils the functions of "chief of staff" as well, he is to be congratulated on the infinite variety of his talents.—I am, Sirs, your obedient servant,

J. E. USHER.

Wimpole-street, W., Aug. 3rd, 1892.

*** A continuance of this correspondence would be as unsatisfactory to the disputants as it would be unprofitable to our readers. We have already, in our desire to be fair, accorded more space to these unprofessional methods of treatment than we had intended, and, so far as we are concerned, the correspondence must now definitely terminate.—ED. L.

THE CHOLERA IN PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

DR. DAREMBERG, the well-known correspondent of the *Journal des Débats*, has had the courage to declare that genuine cholera prevails in Paris and the neighbourhood. A summary of his article has been telegraphed to the English press, and it completely confirms the information I had already forwarded some weeks ago. Dr. Daremberg says (and this was not mentioned in the telegraphic summary of his article) that Dr. Netter, working in Dr. Proust's laboratory, Dr. Chantemesse in Dr. Cornil's laboratory, and Dr. Roux at the Pasteur Institute, have all found, in the dejections of the Paris cholera patients, the comma bacillus which Dr. Koch discovered in India, which Dr. Straus found during the cholera epidemic at Toulon in 1884 and which Dr. Calmette is now cultivating in Cochin China. It is difficult to see what better proof is required than this; but it is urged that in some case the comma bacillus has not been present. Dr. Daremberg replies that this only shows that other microbes can produce the same choleraic symptoms. In this respect it may be mentioned that Dr. Peter, of the Necker Hospital, has also made bold to defy the authorities in their attempt to conceal the true character of the present epidemic. To him political and administrative considerations are of no concern—he has to deal exclusively with the scientific aspect of the question, and as a man of science he is bound to say that the cases described in official documents as "choleriform diarrhœa" present very clearly marked characteristics of Asiatic cholera. In Dr. Peter's laboratory the comma bacillus was discovered some time before it was found by Dr. Netter. It was on July 5th last that I wrote stating that the comma bacillus had been seen in the dejections of the patients; and in those days it was little short of high treason to make such an assertion. Now, however, its truth can no longer be denied.

Dealing with the cause of the epidemic Dr. Daremberg propounds a theory which is open to question. On the one hand he adopts the germ theory, and yet he condemns the irrigation works at Gennevilliers, where a third of the Paris sewage is utilised for agricultural purposes. He seems to think that sewage farms may become mere cholera beds; but the water of the Paris sewers, after it has been utilised for the fertilisation of Gennevilliers, is collected by underground drains and falls into a brook. On analysis this water is found to be absolutely free from microbes. It is drunk by the visitors who go to Gennevilliers. I have drunk the water and have seen hundreds of other people drink it. The water the people receive who have had the cholera is the water of the Seine and there the sewage has no means of purification, but mixes with the water or forms heavy deposits on either bank. Not only the present epidemic, but the epidemics of 1884 and 1866 commenced in the suburbs of the west of Paris; that is to say, in the districts situated near the portion of the river receiving the principal outfalls of the Paris sewers. The river, it seems, rather than the sewer farm, is the cause of contamination, particularly if we consider that this contamination occurred before the sewer existed.

The number of deaths from cholera in and about Paris are now supposed to exceed 400, yet the epidemic has not yet taken root in Paris itself. In the suburbs it exists only in the north and west of Paris, just by that bend of the Seine which seems to be especially contaminated; but within the walls of Paris the cases are scattered in every direction. For instance, there has been a death from cholera at No. 11, Rue des Islettes in the Goutte d'Or district—that is the extreme north—and another at 63, Rue Blanche. This latter is in the centre of Paris and to the south of the other case. A man aged twenty nine died in the Rue Tiphoine, at Grenelle (S.W.), and another in the southern centre of Paris, Rue Notre Dame des Champs. There have been deaths at 3, Rue Rennequin in the Ternes (N.W.); impasse Boudran in the extreme south of Paris; 31, Rue Francois-Gérard, at Auteuil, extreme S.E.; another at Grenelle in the same direction, but not so far. Then there were deaths at Clignancourt, Necker, Porte Dauphine, and Combat, districts which are respectively to the north, the south, the west and the north-east of Paris. I could continue the list, but I have mentioned a sufficient number of cases, all of them ending fatally, to show how scattered is the disease. It has not as yet created in Paris any particular focus, and the cases are as widely spread out in respect to time as they are geographically. This is very different to the experience of the epidemic of 1884 when once it got within the walls of Paris. The disease ran its course in the following manner:—On November 3rd, 1884, there was 1 death, on the next day 3 deaths and the day after 18. The number of deaths for each of the following days was as follows:—On the fourth day, 14; on the fifth, 28; and then, for each succeeding day, 76 deaths, 94, 97, 78, 83, 66, 70, 45, 36, 47, 28, 34, 26, 17, 19, 10, 14, 8, 3, 11, 2, 7, and after that at intervals, a few more cases bringing the total number of deaths up to 955, which, with the cases brought into Paris from the outskirts, made a grand total of close upon a thousand deaths. On that occasion the first cases in Paris occurred in the central districts of the Arsenal, near the Bastille; the Art et Metiers, close to the Boulevard Sebastopol; and the Halles. After that the asylum, or Hôpital Breteuil, in the south-west of Paris was infected and the rag-pickers' quarters in the Cité Jeanne d'Arc.

Warned by the past, the authorities have been looking sharply after the rag-pickers, and have discovered a nest of rag-sorters in the Clichy district, who were living in such conditions of filth and overcrowding as to seriously endanger the public health. These unfortunate people have received peremptory orders to quit their present quarters, and they have only been allowed ten days to remove. But they cannot find any other lodgings. No one will take rag-pickers as tenants; also their trade does not bring in sufficient profit to enable them to pay high rents. As it is, they only pay from 1*s.* to 2*s.* a week for a room and some 3*s.* a week for a ground floor of two rooms, where they accumulate and sort the rags, paper and the other refuse they pick up in the streets. It is difficult to blame these rag-pickers for their endeavours to utilise waste products; but undoubtedly they render the houses in which they live filthy and unhealthy. Such people fall ready victims to any epidemic—they were the principal sufferers at the last cholera epidemic—and it is only natural and right that the authorities should take measures against them. At the same time their lot is a hard

one, and it is with much pleasure that I am able to announce Baron Rothschild has sent £200 for their relief. The rag-pickers are certainly suffering for the public good, and it is only fair the public should come to their assistance.

Paris, Aug. 2nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Sunderland Infirmary.

THE ninety-third annual report of the Sunderland Infirmary has been issued. It states that 2065 in-patients were treated during the past year; of which number 1206 received surgical treatment (394 being from accidents of a serious nature) and 857 were medical cases. The mortality was 5·1 per cent. The number of out-patients treated (such as minor accidents &c.) was 2649. The total subscriptions received from the working classes amounted to £4403. The Sunday schools collection shows a gratifying increase of £39. The expenditure during the year was over £9260, an increase of £417, caused chiefly by certain alterations rendered necessary by the erection of the isolation block.

The New Infectious Diseases Hospital at Wallsend.

The building of this hospital is being rapidly pushed forwards. The site of the new building which is being erected in accordance with a mutual agreement between the joint authorities of Wallsend, Willington Quay and Howdon, is on a breezy eminence about a mile on the north side of Wallsend and is equidistant from the joint townships named above. The erections within the enclosure cover two acres. I hope in a future letter to give you a fuller description of the hospital, which comprises four blocks of buildings.

The Walker Hospital.

The annual meeting of the Walker Hospital has been held. This is principally a workmen's hospital, treating about 500 cases in the year, and it is pleasant to record that more than one-half of the income is derived from working men's collections.

Darlington.

A great demonstration of the Darlington Friendly Societies was held on Sunday last in the public park, in aid of the Convalescent Home at Grange-over-Sands, which was in every way a success. I think, however, that the *Northern Echo* made the following remarks upon somewhat insufficient information, asking—viz.: "Where were the Darlington medicos yesterday? No doubt some had 'part work' to do. It seems odd that the good object sought to be attained by the gathering in the park was not better patronised by the faculty." I can answer the question to some extent, as I met many medical men last week from Darlington and neighbourhood at Nottingham, where the British Medical Association was being held for the advancement of medical science. Now suppose a proportion were there it would of course leave more to do than walking in a park, however otherwise pleasant for those who remained at home. I believe that very few got home from the meeting from such distant points as Darlington to commence their work on Sunday. Many on the other hand made Nottingham the starting point for their short and well-earned holiday. At a late meeting of the sanitary authority a letter was read from the Local Government Board with regard to a resolution passed by the authority asking the Board to withdraw measles from the list of infectious diseases (Notification Act), which stated that it appeared to the Board that the sanitary authority had not taken full advantage of the opportunity of repressing measles, and of instructing the people how they may themselves assist in checking its spread. The Board could not but think that if that had been done more satisfactory results would have been obtained.

Middlesbrough.

The Middlesbrough Friendly Societies' demonstration in aid of the North Riding Infirmary, Ormesby Cottage Hospital and the Middlesbrough Nursing Association had to be abandoned owing to the inclement weather on Sunday last so far as the usual procession went, but a large and successful meeting was held in the Town Hall; so it is to be hoped that the local charities will not suffer.

Poisoning Cases.

A fatal case of poisoning by carbolic acid has occurred at Consett. A nurse, wishing to give a patient a dose of medicine (in the dark), gave carbolic acid instead. Death took place after much suffering in a few hours. A child aged six died in Newcastle the other day from hemlock poisoning. She and another child aged four were playing in a lane in one of our suburbs, where they saw some hemlock lying and, picking it up, ate a little of the flower; they became rapidly ill and the elder child expired in one hour. The other child fortunately vomited freely and was soon brought round. I do not remember a more rapid case than the above, but of course the plant is at its period of activity at present.

Asylum Accommodation in Yorkshire.

At the latest meeting of the West Riding County Council Alderman Woodd moved that the Asylum Committee be empowered to provide additional accommodation at the Menston Asylum, in view of the increase in the number of pauper patients requiring care and treatment in the West Riding. The committee in its report expressed its belief that, though the number of such patients had risen from 3272 in 1890 to 3394 in the last year, "it would not be safe to assume an abnormal increase in lunacy in the West Riding." Mr. Woodd's resolution was adopted.

Newcastle-on-Tyne, Aug. 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Congress of Sanitary Association of Scotland at Aberdeen.

THIS annual Congress was held at Aberdeen on July 27th, 28th, 29th and 30th. The meeting on Wednesday was formal. On Thursday the Marquess of Huntley, honorary president of the Association, occupied the chair and delivered the opening address. He referred to the question of grants in aid of public health, holding that, in fairness to Scotland, such grants should be continued and even increased. He believed that if the powers conferred by the Housing of the Working Classes Act were more generally known, they would be taken advantage of by district committees and proprietors in removing insanitary dwellings and substituting good cottages in their place. He attributed a good deal of the immigration of rural labourers to the towns to the condition of their dwellings. Resolute progress had been made in sanitation; but the feeling that more could and ought to be done was spreading, and when really called into action would become an irresistible force. Four papers were read and discussed: Consumption in Relation to Public Health, by Dr. Neil Carmichael, Glasgow; The Period of Infectiousness in Scarlet Fever, by Dr. R. M. Beattie, Aberdeen; Worm Nodules in the Lungs of Sheep, by Dr. J. T. Wilson of Aberdeen University; and Diseases transmissible from the Lower Animals to Man, by Mr. J. McL. Young, M.R.C.V.S. of Dundee. On Friday, papers were read by Dr. Macdonald (Aberdeen) on Tuberculosis in Common or Barndoor Fowls; and by Dr. Rennet, (Aberdeen) on the Progress of Typhoid Fever in Aberdeen and other Principal Scotch Towns. After addresses by Mr. Gilbert Thomson (Glasgow) and Mr. K. Cameron (Aberdeen) a paper was read on the Progress of Cremation, by Mr. John Mann (Glasgow). This led to a motion being carried to the effect that cremation of the dead, especially in cases of infectious disease, was a rational hygienic process, and that local authorities should be empowered by Parliament to build crematoria. Saturday was devoted to the inspection of places and appliances of interest.

Aberdeen Medical Staff Corps.

Last week fifty men of the 7th (Aberdeen University) Company, Volunteer Medical Staff Corps, left Aberdeen for a week's training at Aldershot. They were under the command of Surgeon-Captain MacGregor and presented a smart soldierly bearing as they marched from their new headquarters to the railway station.

Public Health Prosecutions at Aberdeen.

A house proprietor was convicted last week of permitting drains to remain foul in his houses after repeated notices from the sanitary staff to get them cleaned. A light fine was imposed. Another householder at Torry was convicted of having failed to notify to the authorities the existence of cases of measles in his house. The magistrate dwelt on the

dangerous nature of the offence and imposed a fine of five shillings.

The Health of Aberdeen.

The following is a return of the zymotic cases noted last week:—Town: Measles, 29; scarlet fever, 21; diphtheria, 2; whooping-cough, 25; erysipelas, 6; total cases, 83; being an increase of 31 as compared with last week. County: measles, 2; scarlet fever, 20; typhoid fever, 3; erysipelas, 1—total 26.

Aberdeen University Medical Graduation.

The ceremony of "capping" the successful students was performed on July 27th, when twelve gentlemen proceeded to the degree of M.D. and thirty to those of M.B. and C.M. Three gentlemen received the D.P.H. and one the degree of B.Sc. In addressing the graduates Principal Sir William Geddes spoke of the extension of the University buildings scheme. He mentioned that over £70,000 of the £80,000 required was already promised and that soon the scheme would be workable. He sketched the history of the scheme and warmly eulogised the various friends of the University who had furthered its interests.

Graduation Ceremonial at Edinburgh University.

Mr. Robert Murray Leslie, M.A., B.Sc., M.B., C.M., was awarded the Ettles Scholarship as the most distinguished graduate in Medicine, and the Stark Scholarship of £100 in Clinical Medicine. Mr. Leslie previously graduated M.A. and B.Sc., with the highest honours and obtained the Baxter Biennial Science Scholarship (of £142) as the most distinguished graduate in science.

Aug. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeons.

A MEETING of the Fellows will be held on Thursday, pursuant to the provisions of the Supplemental Charter, to witness the election of six examiners for the diploma in dentistry—viz., three Fellows of the College and a similar number of registered dentists.

Death of Henry Croly, Sen., M.D., J.P.

This gentleman died at his residence, Greenfield, Rathfarnham, on Sunday last, at the ripe age of eighty-six years. He was of a kind and genial disposition and enjoyed the respect and esteem of all with whom he came in contact. He practised for over half a century at Rathfarnham, where he was for many years medical officer of the district, and retired some years ago on superannuation. He enjoyed wonderfully good health and looked hale and hearty until shortly before his death. For some years he examined in midwifery in the Royal College of Surgeons. The deceased leaves two sons, both members of the profession—Henry Gray Croly, the well-known Dublin surgeon and late President of the College of Surgeons, and Albert Croly, medical officer to the Rathfarnham Dispensary.

North Dublin Union.

At a meeting of the guardians last week a communication was submitted from the Local Government Board enclosing a copy of orders which they had put in force, prohibiting the importation of rags into Ireland from France, the ports of the Black Sea, the Sea of Azov, and parts of Turkey in Asia. They requested the Board to see that the orders were carried out by the medical officers of the union.

Health of Dublin for June Quarter.

The births registered in the Dublin registration district for the June quarter numbered 2625, or 30 per 1000, while the deaths amounted to 2730, or 31·2, the rate being 4·6 over the average for the quarter. Zymotic diseases caused 502 deaths, or 23 above the previous quarter, the rate being 4·1 above that for the corresponding quarter of last year. Over 64 per cent. of the total number of deaths from zymotic diseases was due to measles, which caused 322 deaths, the disease being far more fatal in the city than in the suburbs. Whooping-cough caused 60 deaths, against 73; enteric fever 14, a decided decline; typhus fever 4, or an increase of 3; while scarlet fever only caused 1 death, against an average of 23. Among the remaining deaths from zymotic diseases were 27 from influenza, 4 from diphtheria and 18 from diarrhœa and dysentery. In 249 instances the cause of death was not certified and of these 180, or 72 per cent., were deaths of children under five years of age, these 180 deaths forming 17·5 per cent. of the total number of deaths of children of that age. Of the deaths of 115 children under one month old registered, there were 55, or 48 per cent., in which the cause was uncertified.

Sir W. Stokes has been appointed surgeon-in-ordinary to the Queen in Ireland, in the room of Mr. Colles, deceased.

The Local Government Board will hold an inquiry in Drogheda next week regarding the alleged insanitary condition of Chord burial ground.

Aug. 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Artificial Feeding of Infants.

M. BUDIN has lately conducted some experiments on the above subject in his wards at the Charité Hospital, and communicated the results to the Académie de Médecine on the 19th ult. The system followed in his practice is to administer to all the newborn children, for the first three days, cow's milk sterilised by means of Soxhlet's apparatus; this sterilised milk supplementing or replacing the maternal supply according to circumstances. The milk is given undiluted with water. Should the quantity of the mother's milk be sufficient the artificial product is not given. If the maternal supply is deficient, or absent, the sterilised milk is continued wholly or partially. Notes were taken of these three categories of infants under observation from April 1st to June 28th, 1892. Of 89 fed exclusively at the breast after the third day the average daily gain of weight was 28 grammes 17 centigrammes. The average daily gain of weight from the second day of 91 infants submitted to the mixed diet was 18 grammes 16 centigrammes, the corresponding average in 11 infants fed on sterilised milk only being 14 grammes 24 centigrammes. The average daily increase in weight for the 191 infants, taken together was 22 grammes 59 centigrammes. Of the 89 breast-fed children 6 had diarrhœa, whilst 7 such cases occurred amongst the 91 mixed-diet infants and none amongst the 11 artificially fed. In no instance was the diarrhœa severe, and all the little patients recovered. It will be noticed that the development of the nursling, as judged by the daily increase in weight, was most marked in the case of the breast-fed, less in the partially breast-fed and least of all in the artificially fed. The total absence of gastro-enteric complications amongst the children brought up exclusively on sterilised cow's milk is an important feature of M. Budin's communication. That physician is, however, very emphatic in his preference for breast feeding and pronounces strongly in favour of daily weighings as being the most reliable means of ascertaining its physical progress.

Treatment of Fractures of the Patella.

M. Berger related to the Société de Chirurgie the details of an operative procedure for procuring osseous union in fracture of the knee-cap. The subject of the operation was a little girl whose patella was fractured transversely, the upper fragment comprising four-fifths of the bone. The limb was put up in a plaster-of-Paris splint and maintained in a raised position. No union having taken place at the end of forty days, suture of the fragments was decided upon. Unfortunately, after the opposed surfaces of the parts had been pared, the lower and very diminutive piece broke into two unmanageable portions in the attempt to bore through it for the passage of the silver wire. M. Berger very ingeniously surmounted the difficulty by encircling the patella with a silver wire, which, after traversing the triceps tendon, at the level of its insertion into the bone, was taken along the sides of the bone and finally brought to the point of departure after having transfixed the ligamentum patellæ. The periosteum and the skin wound were then sutured, and the limb fixed in a gypsum apparatus. The results were admirable, all the joint movements being perfect and the union all that could be desired.

The Cholera in France.

The cholera epidemic appears to be making no further progress in the suburbs situated to the north of Paris. At Clichy blocks of buildings, which sheltered about 300

families of ragpickers have been condemned on account of their insanitary state and the wretched denizens have been promptly evicted. The brothers Rothschild have, with characteristic kindness, forwarded a sum of 5000 francs to be distributed amongst these victims of sanitation. The epidemic at the lunatic asylum of Bonneval, in the Department of Eure-et-Loir, which broke out on the 17th ult., is almost extinct. It is a curious fact that, although the male and female inmates lived under identical hygienic conditions, only the women were attacked, every man escaping. In the first few days of the outbreak the symptoms were exceedingly violent, and were sudden in their invasion. They consisted of nausea and vomiting, colics, pains in the extremities, with cramps, pale, profuse and involuntary stools. Then came algidity with blueness, slight œdema of the extremities, and an imperceptible radial pulse. From the very onset the features were drawn and the choleraic physiognomy was quite characteristic. A fatal result ensued in from twenty-five to thirty-six hours—sometimes in twelve or fifteen hours, in one instance in only four hours and a half. In a few days after the beginning of the outbreak the disease assumed a milder type, and recovery or death took place after some days of illness. Up to Saturday last the number of inmates attacked was forty-one, no less than twenty of these succumbing. Cases as they occurred were promptly isolated in a special building and every drop of water consumed or used for toilet or domestic purposes was previously boiled. As your readers know, Seine water has been very generally held responsible for the epidemic which has been creating such havoc since April in the suburbs of Paris. The following facts lend support to this theory. The faubourg of Mazagran is situated partly in the town of Argenteuil, partly in the village of Sannois. The houses touch, all the inhabitants belong to the working classes and the sanitation is equally bad in all the habitations. On the Argenteuil side, the Mazagranais are supplied with Seine water, whilst the people living at the other, or Sannois end, drink only water derived from the River Oise. Amongst the first class numerous (and often fatal) cases of cholera have occurred, while the people who drink Oise water have hitherto remained immune.

Paris, Aug. 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Cholera.

THE Prussian Ministry of Ecclesiastical, Educational and Medical Affairs has caused the following statement to be published in the papers of what it is most necessary for all and sundry to know regarding cholera, an example well worthy of imitation by all similar authorities throughout the world: "1. The virus of cholera is in the evacuations of the patients, and can be transferred with them to and into other persons and in the most various things with them and be carried about. Such things are, for instance, linen, clothes, articles of food, water, milk and other drinks; and with all of them, even if only the slightest traces of the evacuations, not perceptible to the natural senses, exist on or in them, the pestilence can spread. 2. It easily happens, therefore, that the contagion is carried from place to place by persons who are or have been ill of cholera or have come into contact with such, and who leave their places of residence in order, as they think, to escape the danger that threatens them there. This is all the more to be warned against, as, on the one hand, one may be already infected before departure, and, on the other, one can protect oneself better at home than elsewhere, especially when travelling, by taking the following precautions. 3. People should not be received into houses from places where cholera exists. As soon as cases of cholera have occurred in a place, persons coming from it must be regarded as possible bearers of the germ of the disease. 4. Lead as regular a life as possible. Experience teaches that all disturbances of digestion make one specially susceptible to cholera. Be on guard, therefore, against whatever can produce such disturbances, such as excessive eating and drinking and indigestible foods. Avoid especially whatever causes diarrhœa or irritates the stomach. In case of diarrhœa, however, consult a doctor at once. 5. Eat and drink nothing coming from a house where cholera is present. Things by which the disease can easily be transmitted—for instance, fruit, vegetables, milk, butter, fresh cheese—must be avoided or taken only after being boiled. Especially the drinking of unboiled milk is to be avoided. 6. All water which may be polluted by excrement, urine, kitchen refuse, or other dirt must be most rigorously avoided. Water taken from the ground under inhabited places, or from swamps, ponds, drains or rivers, is suspicious, because impurities generally flow into them. Water polluted in any way by the excrements of cholera patients is especially dangerous. Special care must be taken that water that has been used in cleaning vessels or dirty linen does not get into or even near wells or standing and running waters. The best protection against the pollution of well water is afforded by iron tube wells driven straight and sufficiently deep into the earth (Abyssinian wells). 7. If it is impossible to get free from suspicious water, it must be boiled, and only boiled water drunk. 8. All this applies not to drinking water alone, but also to all water used for domestic purposes, because germs of disease can be communicated to the body by water used in cleansing kitchen utensils, cleansing and cooking food, washing, bathing, &c. In general, the belief that drinking water alone is to be regarded as the bearer of the virus and that one is completely protected if only unexceptionable water is drunk, is urgently to be warned against. 9. Every cholera patient may become the starting-point for the further spread of the disease, and it is therefore advisable to send such patients to hospitals. If this is impossible, nobody must be permitted to approach them without necessity. 10. Never enter a house with cholera in it except at the call of duty. Never visit places where many people are assembled in cholera times. 11. Never eat, drink, or smoke (even for one's own sake) in rooms in which there are cholera patients. 12. As the evacuations of cholera patients are specially dangerous, clothes and linen soiled with them must either be burned at once or disinfected in the manner stated in the instructions for disinfection published simultaneously with this. 13. The most scrupulous care must be taken that cholera evacuations do not get near wells or rivers serving as sources of water-supply. 14. All articles coming into contact with patients which cannot be destroyed or disinfected must be rendered harmless by means of hot vapours in special disinfecting establishments or not used for at least six days, during which they are kept in a dry and airy place exposed as much as possible to the sun. 15. Persons who come into contact with a cholera patient or with his bed or clothing should wash their hands at once, especially if soiled with the excrement of the patient. Do not touch food with unwashed hands or put into the mouth eating and drinking utensils, cigars, or anything else that may have been soiled in the sick room. 16. In case of death the corpse must be removed to a mortuary as soon as possible. If it cannot be washed there it ought not to be washed at all. The funeral should be as simple as possible. The guests should not enter the house of death or take part in any funeral feast. 17. Articles of dress, linen and other things that have been used by cholera patients or been in contact with the corpses of such patients must on no account be used or given to others till they are disinfected. Especially they must not be sent to other places unless disinfected. The receivers of packages containing such articles from cholera places are urgently advised to send them at once, if possible, to a disinfecting establishment, or to disinfect them themselves with the necessary precautions. Cholera linen ought not to be received for cleaning till it has been disinfected. 18. No other preservatives against cholera are known, and the public are advised not to use the medicaments—cholera-brandy &c.—which are always puffed in cholera times."

Berlin, Aug. 2nd.

Obituary.

W. F. CUMMING, M.D. EDIN.

A TYPICAL specimen of the accomplished physician has just passed away in the octogenarian Dr. Cumming, who died on Wednesday, July 27th, at Loch Baa, Mull, Argyleshire. A cadet of the clan Cumming of Altyre, he was born on the banks of the Findhorn on Oct. 26th, 1805, and like his two brothers—one of whom was a distinguished colonel of the 21st Fusiliers and the other an able and much-employed surgeon—he was destined to make his mark in the world. He

studied medicine at the Edinburgh School, graduated as doctor and shortly thereafter entered the medical department of the East India Company's service. His health, at no time robust, declined in the tropical climate. He came back to Scotland, and in 1836, after consultation with his professional friends, set out on a prolonged tour which included Italy, Greece and the Ottoman Empire as far as Egypt. A record of his travels is embodied in his once popular and even now eminently readable "Notes of a Wanderer in Search of Health," of which the first volume was inscribed to his chief, Sir W. G. G. Cumming, Bart., of Altyre, and the second to his accomplished fellow traveller, V. F. Campbell, Esq., of Islay. The book, which teems with a racy sagacity characteristic of the author, is notable for its anticipation of the now general opinion as to the value of Egypt as a resort in chest disease, from which he himself was a sufferer. Coupled with this shrewd appreciation of the steady, dry, pure, restorative air of the desert was his not less emphatic recommendation to study prudence under medical advice—the two conditions of real and lasting benefit derivable from any climate whatever. He was in himself a striking confirmation of the soundness of this rule, and, though more than half an invalid till long past middle life, he kept himself in health of body and mind sufficient for all the requirements of a physically and mentally active life. Later in his career he visited Germany and Belgium and—always a keen observer—he made their lunatic asylums an object of special study. His experience fructified in a work of high merit entitled "Notes on Lunatic Asylums in Germany and other parts of Europe"—a work which contributed effectively to the introduction of the non-restraint system now so largely and so profitably practised at home and abroad in the treatment of the insane. Dr. Cumming's connexion with the Argyll family led to his acting as body physician and as travelling companion to the Marquis of Lorne (the present duke)—a post which none could have filled better than he, having regard to the cultured and refined tastes which he divided with his accomplished pupil. The friendship then formed and cemented drew still closer the intimacy between them, and when the duke became Lord Privy Seal in the Earl of Aberdeen's cabinet Dr. Cumming was made his private secretary, a post he again took when his Grace accepted office under Lord Palmerston. Not long after the second of these appointments the doctor, who was a keen angler, paid the penalty of his enthusiasm by contracting a paralytic affection of the lower extremities due to prolonged exposure in an open boat to cold and wet. This he never got over; but he did not allow it to lessen his indulgence in sport. In his summer quarters on Loch Baa, Mull, from the door of his lodge to the shore of the loch, he had a tramway constructed, and along this he was conveyed in a basket-carriage, from which he was easily transferred to a boat in which he landed quite as many salmon as in his prime. With all this passion for open-air life he was a reading man of fine taste and exemplary assiduity, his favourite authors being Milton and Johnson among the English and Burns and Scott among his compatriots. "He never passed the Scott monument in Prince's-street," writes one who knew him well, "without lifting his hat and insisting that anyone with him in the carriage should pay the same homage to the Wizard of the North." His independence in matters of opinion political and religious made him indifferent, as Byron says in "Don Juan":

> "To Trojan or to Tyrian,
> And, like his sires, a moderate Presbyterian."

For his *alma mater* he retained to the last an overflowing affection—appropriately typified in his donation of the fountain which adorns the University quadrangle. For many years he was the guest of his sister Lady Coxe (wife of Sir James Coxe, the accomplished Commissioner in Lunacy for Scotland) whose beautiful residence at Kinellan he occupied after their death, making it in turn the scene of much kindly and cultured and highly appreciated hospitality. To the last he took a lively interest in political contests, in the Midlothian election of 1880 being "lifted from his carriage into a basket-chair, which was wheeled into the polling station. But," adds the friend to whom we are indebted for most of the above details, "the chair could not be got into the polling booth." In this dilemma an appeal was made to the polling sheriff, who, at his wit's end to meet a contingency not provided for under the Ballot Act, yielded at last to the doctor's insistance and had a ballot-paper brought out to him. The doctor then made his "X" on the crown of his hat.

He was never married, and his lovely suburban residence at Kinellan passes into the possession of Sir J. Coxe's daughter, Mrs. Rose-Innes. Dr. Cumming's funeral, starting from Kinellan, took place at Edinburgh on Tuesday, August 2nd, and was attended with every mark of respect by a large number of professional friends and of the general public.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council of the Royal College of Surgeons, held on Monday, the 1st inst., the minutes of the quarterly meeting of the Council held on July 14th were read and confirmed.

The Secretary reported the death on July 19th of Mr. Frederick Le Gros Clark, F.R.S., past president, past member of the Council and of the Court of Examiners of the College. A resolution of condolence was unanimously passed and directed to be sent to Mrs. Clark and the family on their sad loss.

The museum and library will be closed as usual during the month of September for the purpose of a general cleaning.

Sir W. Mac Cormac was re-elected a member of the Court of Examiners in Surgery and Mr. J. C. N. Davies-Colley was elected an Examiner in Surgery in the vacancy caused by the retirement of Mr. Bryant.

Dr. H. J. Campbell was elected a Professor of Comparative Anatomy and Physiology in the vacancy left over from the last meeting. A letter from Dr. Liveing reporting the proceedings of the Royal College of Physicians on July 28th was received and read.

It was agreed that the annual meeting of Fellows and Members of the College should be held on Thursday, Nov. 3rd, at 3 P.M., and that the usual notices should be issued.

A committee was then appointed to consider and report on the standing rules and to submit a revised copy to the Council; also to consider any resolution of the Council at present extant on the proceedings of the Council. The members of this committee are the President and Vice-Presidents, Messrs. Macnamara, Rivington and Tweedy.

Mr. Macnamara moved, and Mr. Langton seconded, the following resolution, which was agreed to:—"That it be referred to the Nomination Committee to consider and report to the Council whether any, and if so what, alterations are desirable in the arrangements for the museum and other lectures." The next meeting of the Council will be held on Thursday, October 13th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen, having passed the necessary examinations, have been admitted by the two Royal Colleges Diplomates in Public Health:—

Aldridge, Arthur Russell, M.B. Edin. (Edinburgh), Southampton.
Armin, Henry Charles Leffler, L.R.C.P., M.R.C.S., Surgeon Captain Indian Medical Staff (Charing-cross), Hinde-street, W.
Bailey, W. Henry, M.B. Lond., M.R.C.S. (St. Barth.), East Dulwich.
Best, William Jenner, M.R.C.S. (London), Louth, Lincolnshire.
Coates, Henry Honiton, L.R.C.P., M.R.C.S. (St. Barth.), Soho sq., W.
Gay, John, L.R.C.P., M.R.C.S. (St. Barth. and King's Coll.), Putney.
Gibson, James Hill, M.D Q.U.I. (Dublin and Belfast), Maida-vale.
Hall, John Moore, M.B. R.U.I. (Belfast and King's), Old Ford-road.
Hoyle, James Collings, L.R.C.P., M.R.C.S. (St. Barth.), Gray's-inn.
Mann, Harold Edward, L.R.C.P., M.R.C.S. (St. George's), Homerton.
Orr, William Young, M.B. Edin. (Edinb. and King's), Putney.
Preston, George, L.R.C.P., M.R.C.S. (Manchester), Saltash, Cornwall.
Priest, James Damer, M.R.C.S. (St. Barth.), Waltham Abbey.
Ricketts, Thomas Frank, L.R.C.P., M.R.C.S. (Guy's), Cheltenham.
Schorstein, G. Isidore, M.B. Oxon. (Oxford and Lond.), Portland-pl.
Scott, Sack Roy, L.R.C.P., M.R.C.S. (Charing-cross), Lewisham.
Tratman, Frank, M.B. Lond., L.R.C.P., M.R.C.S. (Lond. and Bristol), Bristol.
Wilkie, John, M.B. Lond. (Univ. Coll. and St. Barth.), Buckingham-street, Adelphi.

Eight candidates were referred.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having previously passed the necessary

examinations and having now attained the legal age (twenty-five years), has been admitted a Fellow of the College :—

Drew, Douglas, M.B., L.R.C.P. Lond., Gloucester-place, W. ; diploma of Member dated July 28th, 1890.

The following Licentiates of the Royal College of Physicians of London, having previously passed the necessary examinations and having conformed to the by-laws and regulations, have been admitted Members of the College :—

Ali, Subhan, Islington.
Atcherley, John, Leeds.
Baker, J. Charles, Kentish Town.
Ballance, H. Ashley, Hampstead.
Banham, C. W. R., saffron Walden.
Barnes, H. Cooper, Pulpot-street.
*Blake, H. Elliot, Guy's Hospital.
Bliss, E. W., Brierley Hill, Staffs.
Bond, W. Ernest, Little Britain.
Bowie, R. Arthur, Store-street.
Brimacombe, R. Wm., Worcester.
Brown, H. Corser, Tipton, Staffs.
Bull, Stanley Arthur, Kensington.
Bunch, F. V., Gloucester crescent.
Buttar, Charles, Stratford-place.
Carwardine, Thomas, Willesden.
Cazalet, Grenville W., Guilford-st.
Charles, B., South Hampstead.
Cross, Geoffrey, Brixton.
Cutcliffe, M., Witheridge, Devon.
Darker, Geo. F., St. George's-sq.
Davies, Richard, Hereford.
Dixon, Charles Arthur, Leeds.
Dove, Frank, Colchester.
Dunderdale, R. H. W., Blackpool.
Eames, E. T. Philip, St. Johns.
Edwards, Frederic W., Forest Hill.
Fowler, Jas. Stewart, Edinburgh.
Fraser, Herbert St. John, Sutton, Surrey.
French, H. C., Shoeburyness.
Fyffe, Reginald J., Forest Hill.
Gaskell, Arthur, Dartmouth.
Gedge, A. Syd., South Clapham.
Girdlestone, Howard E., Brixton.
Gladstone, R. J., Old Aberdeen.
Goodwin, T. H. J. C., Paddington
Graydon, A., Philbeach-gardens.
Griffith, R. C., Upper Woburn-pl.
Griffiths, S. A. E., Corinne-road.
Hague, John, Ashton-under-Lyne
Hainsworth, E. M., Blackheath.
Hamlen-Williams, T. R., London
Harris, Frank Drew, Clapham.
Hartnell, E. Bush, Borough.
Harvey, J. Harold, Little Haven, Pembrokeshire.
Heath, Arthur Douglas, Exeter.
Hemsted, E. Spencer, Whitchurch, Hants.
Henry, Robert, Putney.
Hepburn, M. L., New Kent-road.
Hessey, Jas. D., Mornington-pl.
Hogg, R. H., Albert-street, N.W.
Jaffé, C. S., Westbourne-terrace.
James, R. B., Stratford-on-Avon.
Jenkins, John E. M., Wimbledon.
Jones, John, Mornington-cresc.
Kent, Sydney, Sevenoaks.
Killery, St. John B., Chiswick.
Knapp, M. Henry, Paddingdon.
Langford, Morris Chas., Padstow, Cornwall.
Lightfoot, J. Parker, Brixton.
Loos, W. Chris., Upper Norwood.
McCormack, C. Vincent, Liverpool.
Mackeson, Guy, Courthope-rd.
Milner, A. E., Lansdown-place.
Milton, A. R. Octavius, Lambeth.
Morley, G. Frederic, Sinclair-rd.
Morton, J. Leyden, Kilburn.
Musgrave, C. R. T., Notting-hill.
Nellen, G. F. Marshall, Brighton.
Newton, H. W., West Hampstead.
Nicol, James Main, Leeds.
Ortlepp, Albert J., Harrow-road.
Osborn, Francis A., Falmouth-rd.
*Parker, William, Holloway.
Parrott, Albert Geo., Chingford.
Perry, S. Herbert, Frederick-st.
Perry, W. Arthur, Bournemouth.
Pethybridge, W. Ley, Plymouth.
Pickering, H. Neville Umfreville, Upper Berkeley-st.
Posnett, Edward, Leeds.
Potter, Walter, York.
Powell, W. A., Battersea Rise.
Randall, Marrin, Hendon.
Ransome, H. F., Altrincham.
Renny, Eustace Geo., Pimlico.
Rock, Cecil Howard, Lewisham.
Russell, J. Ronaldson, Dartford.
Sawers, J. Lorimer, Blackheath.
Sheurer, J. Gerrit, Highbury-park.
Scotson, Fredk. C., Warrington.
Selby, E. W., Albert-street, N.W.
Selby, William, Croydon.
Shaw, A. Eland, Wandsworth.
Sims, J. Hedley, Osborn-terrace.
Smith, Edwin, Wandsworth.
Smith, Norman Ireland, Windsor.
Smith, Wm. Robt., King's College Hospital.
Spencer, Chas. Geo., Norland-sq.
Sproat, Jas. Hugh, Birmingham.
Squibbs, R. E. P., Albert-street.
Staddon, Henry Ernest, Ipswich.
Steggall, S. L. J., Queen-square.
Stewart, Jas. Allan, Notting-hill.
Strange, A., Knebworth, Herts.
Sutcliffe, Wm. G., Larkhall-lane.
Swabey, Maurice, Bath.
Sylvester, H. Mayris, Caroline-place, W.C.
Templeton, George, Kilmarnock.
Thomas, R. S., Starcross, Devon.
Tipping, Henry Hubert, Alcester, Warwickshire.
Toller, Neville Percy F., Lambeth.
Tweedy, R. C., Redruth, Cornwall.
Vincent, Wm. James Nathaniel, Newcastle-on-Tyne.
Vinrace, M. H., Birmingham.
Wall, Frank, Totteridge.
Walter, R. Arthur, Woburn-sq.
Walters, A. Radclyffe, Reigate.
Walters, F. Wilfred, Sydenham.
Watkins, W., Turner-st., Mile End.
Wesley, F. W., Burlington House.
West, W. Goldsborough, Thaxted.
Wheatcroft, E. Woodhwiss, Derby.
White, Jas. A. H., Birmingham.
Williams, George C. Waldemar, Peckham.
Williams, H. J. E. Hutchins, Lee.
Williams, Herbert Whitley Skey, Holywell, North Wales.
Willock, E. Hulse, Norwood.
Willson, J. Wherry, Bernard-st.
Windsor, Frank N., Manchester.
Winter, Laurence A., Woodford.
Withers, F. Ernest, Reading.
Wright, S. F., Bickley, Kent.
Wroughton, Wm. Chas. Haulton, Highbury-hill.
Wyzard, Alex. Ta Denmark-hill.

The following gentlemen have also been admitted Members :—

*Austin, J. H. E., L.R.C.P. Edin., Chiswick.
*Councell, Richard Watson, L.S.A., Lorrimore-square.
*Hancock, H. R., L.R.C.P. Irel., Burslem, Staffordshire.
*Hawley, Frederick Hulme, L.S.A., Timberland, Lincolnshire.
*Michie, W. A., M.B., C.M. Aberd., Greenwich.
*Soden, T. Armand Bourne, L.S.A., Newcastle-on-Tyne.
*Soilleux, Garnet, M.B. Melb., Clements-lane.
*Young, John C., M.D. New York, Bernard-street.

* Candidates who have not presented themselves under the Regulations of the Examining Board in England.

VICTORIA UNIVERSITY.—The degrees of M.B. and Ch.B. were conferred by the Vice-Chancellor of the Victoria University at Owens College on July 30th :—

First Class Honours : J. H. Crocker, Owens. *Second Class Honours :* C. R. Marshall, Owens. *Pass, First Class :* J. C. Buckley and F. J. H. Coults, Owens ; W. E. Davies, University ; A. Greenhalgh, Owens ; W. M'Lelland and J. B. Mawdsley, University ; Alfred Murgatroyd, Owens ; A. J. Partridge, University ; C. H. G. Ramsbottom, Gruner Stowell, W. H. Waddington, and W. A. Williamson, Owens.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July sittings of the above Conjoint Board the following candidates passed the Final Examination :—

Janet M. C. Gray, London ; John C. Edwards, Oswestry ; Joseph M. Roche, Liverpool ; Hugh N. A. Taylor, B.A., Cambridge ; Daniel MacCarthy, Cork ; Robert A. Potterton, Dublin ; Jas. G. Willis, Portarlington ; William P. Willis, Shettleston ; Geo. Ellis, Ossett ; John James Brennan, Kilkenny ; William R. Thrower, London ; Henry C. Darby, Stourbridge ; James P. T. Burke, Thurles ; Cuthbert Rutherford, Glasgow ; Alexander Wheeler, Edinburgh ; Henry J. Cosgrove, Dumfries ; Samuel E. Jones, Mold ; Thomas Young, Irvine ; Thomas W. Bartlett, London. *Division I.*—W. C. Alexander, C. R. Huxley. *Division II.*—W. Owen, R. T. Clark, W. W. Forrester, W. C. Alexander. *Division III.*—L. Barges, Wm. Owen, C. R. Huxley, A. A. D. Parke.

UNIVERSITY OF GLASGOW.—The following gentlemen received the degree of M.D. on July 28th :—

***Hugh Highet, M.B., C.M. ; *Alexander Glen Park, M.B., C.M. ; James Duncan, M.B., C.M. ; Peter Fraser, M.B. ; Robert Alex. Morton, B.Sc., M.B., C.M. ; James Muir, M.B., C.M. ; J. F. Muir, M.B., C.M. ; John Stewart M'Conville, M.A., M.B., C.M. ; Alex. Shanks, M.B., C.M. ; John Pollock Simpson, M.B., C.M. ; John Somerville, M.B., C.M. ; William Callender Taylor, M.B., C.M. ; Andrew Stewart Tindal, M.B., C.M.**

* Received commendation.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND : CONJOINT SCHEME.—The following have passed the Third Professional Examination :—

G. H. Ayres, Jeremiah Behane, A. C. Callaghan, Henry Carre, W. J. Coneys, L. F. Corbet, J. J Dolan, C. P. Hannan, R. J. Harvey, E. L. Hunt, H. Hunt, P. K. Joyce, H. H. Moffat, C. E. Murphy, H. McDermott, J. G. Lanahan, M. J. O'Brien, W. F. Pigott, T. A. Poirotte, J. H. Power, W. F. Roe, C. R. Rothwell, R. Somerville, H. Sweeney, W. Taylor, Elizabeth A. Tennant, and H. G. Thompson.

NEW CONVALESCENT HOME.—Mr. Passmore Edwards having given a convalescent home to his native county, Cornwall, it was formally opened by Mrs. Edwards on the 1st inst. It is located at Perranporth, about nine miles from Truro, on the north coast and near to Blackwater. The home contains twenty beds for patients. Besides building and furnishing it Mr. Edwards has given £3000 towards its endowment. Mr. Edwards was present, and formally handed it over to the Governor of the Royal Cornwall Infirmary, Truro.

DEATH UNDER CHLOROFORM.—An inquest was held at Uxbridge-road, on the 2nd inst., on the circumstances attending the death of Mr. J. M. M. Bishop, which took place in St. Bartholomew's Hospital whilst undergoing an operation for the removal of a deep-seated abscess of the liver. The deceased was put under the influence of chloroform previously to the surgical procedures, and all went well until the operation had been almost completed, when the respiration suddenly ceased and all the means adopted to restore animation were found unavailing. The jury returned a verdict of "Death by misadventure."

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—At a meeting of medical men residing in the north of London, held at Tottenham on Thursday, June 30th, it was resolved to establish a division of this Society for the north of London. The following officers and council were elected subject to confirmation by the Central Council :—Divisional President: E. Hooper May, M.D., F.R.C.S. Vice-Presidents: D. Fairweather, M.B. ; Frank Godfrey, L.R.C.P., L.R.C.S. ; Frank Greaves, M.R.C.S., L.S.A. ; G. Greenwood, L.R.C.P., M.R.C.S. ; George Henty, M.D. ; Charles P. Langford, M.R.C.S., L.S.A. ; T. Boswall Watson, M.D. ; W. T. Watson, M.D., M.R.C.S. Council : W. B. Benjafield, M.B., C.M. ; J. B. Cook, M.R.C.S., L.R.C.P. ; James Dawson, M.D., L.R.C.S. ; W. Donston, L.D.S., R.C.S.I. ; L. Grant, M.D. ; Arthur Greenwood, L.R.C.P., M.R.C.S. ; James Heath, M.D. ; G. T. Penny, M.A., M.D., M.R.C.S. ; J. J. Pitcairn, L.R.C.P., M.R.C.S. ; G. H. Vos, M.B., M.R.C.S. ; A. O. Ward, M.D., M.R.C.S. ; E. Wood, L.R.C.P., M.R.C.S. Hon. Secretary : Lloyd G. Smith, M.D., C.M. It was resolved that three ordinary meetings of the Divisional Council should be held each year in the months of January, May and October, and that the annual meeting of the members of the division should be held in June of each year. Instructions were given for the issuing of circulars to all medical men residing in the district, inviting them to join the Society. The secretary was directed to lay the names of all applicants for membership before the Divisional Council previously to their being submitted to the Central Council for election, in order to assure the eligibility of the candidates.

DR. R. J. WHITE (Brentwood) has received notice that the Local Government Board have awarded him the Government grant for public vaccination for the third time.

HOSPITAL FOR THE LUDDENDENFOOT DISTRICT.—The local boards of Midgley, Luddendenfoot and Warley have agreed to jointly establish a hospital for infectious diseases. Each authority is to contribute to the cost and expenses of the hospital on the basis of the population.

OPEN SPACES.—The Trustees of the London Parochial Charities, at their last meeting, resolved to grant £2000 towards the fund for the acquisition of Hackney Marshes, and £1000 to the fund for the acquisition of the Paddington Recreation Ground.

DR. THOMAS N. BRUSHFIELD has been elected President of the Devonshire Association for the Advancement of Science, Literature and Art at the annual gathering to take place next year at Torquay. Sir S. Bowring, S. A. Froude, and the Rev. C. Kingsley are in the list of past presidents.

ST. BARTHOLOMEW'S HOSPITAL.—On July 28th, at a meeting of the governors of the hospital, at which Mr. Wire presided, the Lord Mayor proposed and Sir William Savory seconded the nomination of Sir Trevor Lawrence as treasurer of the hospital, in the room of Sir Sydney Waterlow, who has retired. There being no opposition, Sir Trevor Lawrence was elected.

BASINGSTOKE COTTAGE HOSPITAL.—The thirteenth annual meeting of subscribers to this institution was held in the Town Hall, Basingstoke, the Rev. A. G. Barker, president, being in the chair. The report stated that during the year seventy patients had been treated at the hospital, forty of whom were discharged cured and seventeen more or less improved. The balance-sheet, which was also submitted, showed the income to amount to £441 16*s.*

THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN.—On July 30th the Lady Mayoress handed over to Mr. Edwin Lawrence, the chairman, and Mr. R. G. Kestin the secretary, of the Royal Hospital for Children and Women, Waterloo-bridge-road, a cheque for £1028 9*s.* 9*d.*, being the net profits from the rose show recently held at the Mansion House in aid of that institution. The committee have presented the Lady Mayoress with an illuminated address of thanks inclosed in a handsome album, and have elected her an honorary life governor of the hospital.

PRESENTATION.—A testimonial consisting of a claret jug and spirit stand has been presented to Dr. Robert Jones, medical superintendent of Earlswood Asylum, by the officers and staff "as a token of their admiration of his brave act in saving the life of a little child at the risk of his own." Dr. Jones sucked the tube in a case of tracheotomy for diphtheria in the child of an asylum *employé*, when an obstruction threatened the death of the patient. This heroic act was happily accomplished without contracting the disease.

FOOD ADULTERATION IN SHEFFIELD.—The health department of this borough is taking active steps for the protection of the public against adulteration of food, especially in respect to milk. Last week four milk-sellers were fined, in sums varying from £6 and £1 each and costs, for selling impoverished milk. A farmer was amerced in a penalty of 10*s.* and costs for want of cleanliness in the cow-shed in which his milk vessels were kept. In two cases for selling butter which contained a large percentage of margarine fines of £1 each and costs were inflicted.

PUBLIC HOSPITAL AND DISPENSARY, SHEFFIELD.—The work of this institution during the past year shows a satisfactory increase. The in-patients treated were 51 in excess of the previous twelve months. The expenditure had exceeded the ordinary income by £1058. The capital account had by legacies been increased by £3048 14*s.* 5*d.* After deducting the aforesaid deficiency the net increase was reduced to £1990 13*s.* 7*d.* The anticipated commencement of the new hospital had been delayed entirely from a desire to comply with the express wish of the corporation; but the difficulties had now been overcome and steps would shortly be taken for building the first block.

SANITARY INSTITUTE, LONDON.—The Duchess of Albany distributed, at the Parkes Museum, on Wednesday, the certificates to the ladies who had passed the examination following the lectures delivered at this institute on domestic hygiene. Sir Douglas Galton, the chairman, presented the report of the examiners, which spoke satisfactorily of the work accomplished.

ANCOATS HOSPITAL, MANCHESTER.—The annual report for the past year records a steady and increasing interest in the institution on the part of friends and subscribers. The number of beds available have been increased by the opening of No. 5 Ward, which leaves one ward only (the Memorial Ward) empty. This too could be filled, thus utilising the whole of the ward space in the Albert Victor wing, but the state of the funds forbid the committee incurring further expenditure. The small convalescent home at Wilmslow has been a boon to over 100 women patients. The financial statement shows a balance due to the bankers of £690. But the treasurer has received since the accounts were made up, a check for £1000 in memory of the late Mr. Oliver Heywood, and also a check for £1000 from Mr. Jardine.

PROPOSED NEW INFIRMARY, ISLINGTON.—On the 28th ult., at a meeting of the Islington guardians, the proposal to acquire a site for a new infirmary for the parish in Tollington-park came up for discussion. The chairman (Mr. J. S. Furlong) said a new infirmary was urgently needed, and the proposed site was a good one. It was objected to on the ground that the property in the neighbourhood would be depreciated, and he explained his reasons for deeming the objection a mistake, adding that in other parts of London such buildings did not damage the neighbourhood. Some discussion ensued, which resulted in a postponement of the further consideration of the question until the committee appointed by the opponents of the scheme could see the plans and lay their views before the board.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BISHOP, HENRY DRAPER, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at the London Hospital, Whitechapel.

BOYD, JAS. D., M.B., C.M., L.F.P.S. Glasg., L.R.C.P. Edin., has been appointed Public Vaccinator, Bendigo, Victoria, Australia.

BRYAN, FREDERICK, M.B., M.R.C.S., L.S.A., has been appointed Senior Assistant Medical Officer to the London County Asylum, Colney Hatch, vice W. H. George, deceased.

BURLAND, H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Finedon Sanitary District of the Wellingborough Union.

CHARLES, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to several Collieries in the Swansea Valley.

DOLAMORE, W. H., has been appointed Assistant Dental Surgeon to the Dental Hospital of London.

DOWLING, N., L.R.C.P. Lond., M.R.C.S., has been appointed Health Officer for the Borough of Portland, Victoria, Australia.

FLINN, J. J., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Belmont-road Workhouse of the West Derby Union.

GRATTE, C. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Marshfield Sanitary District of the Newport (Mon.) Union.

GURNEY, HAROLD, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health to the Borough and Port of Harwich, vice W. W. Hardwicke, resigned.

HEARNDEN, W. C., M.R.C.S., has been reappointed Medical Officer for the Headley Sanitary District of the Epsom Union.

HECTOR, E. B., M.B., C.M. Edin., has been appointed Medical and Vaccination Officer for Drighlington, Tong, and East Bierley.

HILL, T. E., M.R., C.M. Edin., B.Sc., has been appointed Medical Officer of Health for the County of Durham.

HIRST, S. C., M.D. St. And., M.R.C.S., has been reappointed Medical and Vaccination Officer for Thornbury and Tyersal.

HOWES, H. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Hemingsby Sanitary District of the Horncastle Union.

JESSOP, J. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Horncastle Sanitary District and the Workhouse of the Horncastle Union.

JONES, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Penrhyn Sanitary District of the Falmouth Union.

KENNY, G. G., M.B., C.M. Glasg., has been reappointed Medical Officer to the Waikato Hospital, Australasia.

LA TOUCHE, E. D., L.R.C.S. Irel., has been appointed Public Vaccinator at Wood's Point, Victoria, Australia.

MALCOMSON, J. A., M.D., M.Ch. Irel., has been appointed Medical Officer for the Middlesbrough Sanitary District of the Middlesbrough Union.

MCFARLANE, A., L.R.C.P. Lond., L.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Aylesbury Union.

MORTON, WM. BRITAIN, M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer at Wonford House Asylum, Exeter.

OSMOND, E. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Pontefract Sanitary District and the Workhouse of the Pontefract Union.

PERKINS, H. A., M.D. Edin., M.R.C.S., has been appointed Honorary Medical Officer to the Totnes Cottage Hospital.

PHILLIPS, D. W., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Winslow Union.

POGSON, W., F.R.C.S. Eng., has been reappointed Medical Officer of Health to the Leeds Rural Sanitary Authority.

SMITH, K. R., M.D. Lond., B.Sc., M.R.C.S., has been appointed Honorary Medical Officer to the Totnes Cottage Hospital.

SUGDEN, H. C., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Senior House Surgeon to the Bury Dispensary Hospital, Bury.

VICKERS, C. W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Paignton Sanitary District of the Totnes Union.

WICKHAM, O. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Parish of St. Mary, Islington.

WILLIAMS, E. R., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to H.M. Prison, Carmarthen, vice W. L. Hughes, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BIRMINGHAM CITY ASYLUM.—Clinical Assistant. Board, lodging and washing provided.

BURY DISPENSARY HOSPITAL, Bury, Lancashire. — Junior House Surgeon. Salary £60 per annum, with board, residence and attendance.

COUNTY ASYLUM, Shrewsbury.—Junior Assistant Medical Officer. Salary £100 per annum and £8 in lieu of beer, with board, lodging and washing.

KENT AND CANTERBURY HOSPITAL.—House Surgeon. Salary £90 the first year, with board &c., rising to £100 the second year.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Board and lodging provided.

LONDON COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary £500 a year, rising by annual increments of £50 until it reaches £600 a year. (Apply to the Clerk of the Council, Spring-gardens, S.W.)

MANCHESTER ROYAL EYE HOSPITAL.—House Surgeon. Salary £70 per annum, with residence, board and washing.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT.—Honorary Assistant Medical Officer.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, for one year. Salary £150 per annum, with board and residence.

MESSRS. MUNK & ADIE, Solicitors, 27, Clement's-lane, E.C.—Medical Man to act as Director on the Board of a small Provident Company.

MOULSFORD ASYLUM, near Wallingford, Berks.—First Assistant Medical Officer. Salary £130, rising by £10 per annum to £150, with rooms in Asylum, and board.

ROYAL UNITED HOSPITAL, Bath.—Honorary Physician.

STOURPORT MEDICAL AID ASSOCIATION.—A qualified Assistant. Salary £120 per annum (out-door). (Apply to Mr. Bourne, Station House, Stourport.)

STURMINSTER UNION.—Medical Officer and Public Vaccinator for the Hinton District. Salary £40 per annum, with fees for Vaccination; the ordinary Midwifery cases, attended under orders, 10s., and extra medical fees for treatment of fractures &c. (Apply to the Clerk, Poor-law Offices, Sturminster Newton.)

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds. House Surgeon. Salary £100, with board, lodging and washing.

THORNBURY UNION.—Medical Officer for the Almondsbury District. Salary £70 per annum, with extra fees for midwifery cases, and for the operations and services specified in the Orders of the Local Government Board, and also at per case for public vaccination, under contract. (Address to the Clerk to the Guardians, Thornbury.)

YORK RETREAT.—Senior Assistant Medical Officer. Salary £150 per annum, with board and lodging.

Births, Marriages, and Deaths.

BIRTHS.

BEACH.—On July 30th, at Darenth Asylum, Dartford, the wife of Fletcher Beach, M.B., F.R.C.P., of a son.

COPNER.—On July 21st, at Capstone Lodge, Ilfracombe, the wife of Arthur L. Copner, M.R.C.S., of a son.

DAVENPORT.—On June 5th, at Chung-King, W. China, the wife of C. J. Davenport, F.R.C.S., prematurely, of a son, stillborn.

HORDER.—On or about July 28th, at Pák-how, S. China, the wife of Dr. E. G. Horder, C.M.S., of a son.

ORMEROD.—On July 29th, at Greenhill, Bishop's Waltham, the wife of Joseph Arderne Ormerod, M.D. Oxon., F.R.C.P. Lond., of a son.

ROCKLIFFE.—On Aug. 2nd, at 9, Charlotte-street, Hull, the wife of William Craven Rockliffe, M.A., M.D., of a daughter.

STONE.—On July 25th, at Sandfield, Reigate, the wife of Dr. Stone, of a daughter.

VACHER.—On July 28th, at Glanmor, Birkenhead, the wife of Francis Vacher, late Medical Officer of Health, Birkenhead, of a son.

WESTON.—On July 31st, at Groveley House, Handsworth, the wife of S. T. Darby Weston, of a son.

WOMACK.—On July 30th, at Dennington-park-road, West Hampstead, the wife of Fredk. Womack, M.B., of a son.

MARRIAGES.

BATTERHAM—CAMPBELL.—On July 28th, at All Souls', Clive Vale, Hastings, John Williams Batterham, M.B., F.R.C.S., to Mabel Caroline, only daughter of the late Bruce Campbell, Esq., of the Inner Temple, Barrister-at-law.

BIDEN—GRUMMANT.—On July 30th, at St. Saviour's, Denmark-park, S.E., George Henry Biden, L.R.C.P. Lond., of Plas-yn-dre, Newtown, Mont., to Kate Sarah, youngest daughter of John Grummant, of Ravens, Champion-hill, S.E.

BOOTH—SHAW.—On July 28th, at the Parish Church of St. John's, Pinner, Middlesex, by the Rev. Marcus Rainsford, James Mackenzie Booth, M.A., M.D., C.M. Aberd., to Margaret Mackenzie, daughter of the late James Shaw, Esq.

MACKEITH—GADD.—On July 28th, at St. David's Church, Exeter, Alexander Arthur Mackeith, M.B., C.M., of St. Thomas, Exeter, to Alice, eldest daughter of Henry Gadd, J.P., St. David's-hill, Exeter.

MUSPRATT—KNOX.—On Aug. 3rd, at the Church of the Ascension, Balham-hill, Charles Drummond Muspratt, M.D., F.R.C.S., of Bournemouth, to Mabel, daughter of Ralph Henry Knox, C.B., of Trouville-road, Clapham-park.

MOXEY—TYSON.—On Aug. 2nd, at Vienna, near Washington, U.S.A., David Anderson Moxey, M.D., M.R.C.P. Lond., to Anna M. Tyson.

ROBERTS—PARKER.—On July 20th, at Enderby Parish Church, Dr. Hugh Leslie Roberts, of Rodney-street, Liverpool, to Kate A. C. Parker, daughter of the late S. Parker, Esq., Royal Engineer Department of Mandeville, Gosport.

THOMAS—SPENCE.—On July 27th, at Huntly, N.B., by the Rev. Dr. Semple, W. Thelwall Thomas, F.R.C.S., of 75, Rodney-street, Liverpool, to Anabel Roxburgh, youngest daughter of A. Spence, Esq., Huntly.

WAKELAM—LUPTON.—On Wednesday, Aug. 3rd, at St. Peter's Church, Ashton-under-Lyne, by the Rev. J. Gouldie French, M.A., assisted by the Rev. J. M. Muzzell, B.A., Edgar Wakelam, L.R.C.P. &c., Waterhead, Oldham, late of Willenhall, Wolverhampton, to Emma, youngest daughter of James O. Lupton, Esq., of Richmond House, Ashton-under-Lyne.

DEATHS.

BARRETT.—On Aug. 1st, at Merchiston-place, Edinburgh, William Barrett, M.B., Surgeon-Major, late 71st Regiment, aged 76.

BELL.—On July 28th, suddenly, at Preston, William Howard Bell, M.R.C.S., Surgeon-Captain in the Army Medical Staff, aged 31.

BELLEW.—On July 26th, at his residence, Farnham Royal, Bucks, Henry Walter Bellew, Surgeon-General, C.S.I., C.I.E., aged 57.

BENNETT.—On July 29th, at Longford, Surgeon-Captain William Halloran Bennett, M.B., Army Medical Staff, second son of the late Major-General R. Bennett.

CUMMING.—On July 27th, at Benmore Lodge, Mull, William Fullarton Cumming, M.D. (Logie, Morayshire), of Kinellan, Murrayfield, Edinburgh, aged 87.

FORBES-WATSON.—On July 29th, at Belvedere-road, Upper Norwood, John Forbes-Watson, M.A., M.D., LL.D., late Reporter on the Products of India to the Secretary of State for India and Director of the India Museum, aged 65.

LANE.—On Aug. 2nd, at St. Mary's, Madeley-road, Ealing, Samuel Armstrong Lane, F.R.C.S., in his 91st year.

SOUTTER.—On July 28th, at Cumberland-terrace, Finsbury-park, N., Mansfield Collier Soutter, M.R.C.S., A.K.C. Lond., aged 48.

VASEY.—On July 31st, at Cambridge-gardens, North Kensington, Chas. Vasey, L.F.P.S., L.D.S. R.C.S. Eng., Consulting Dental Surgeon of St. George's Hospital, in his 70th year.

IN MEMORIAM.

In loving memory of Edmund Overman Day, M.R.C.S., L.S.A., who was suddenly called to his rest on the 4th August, 1891, interred at Flamstead, Herts, on Aug. 10th, 1891, and reinterred at Norwood Cemetery on the 5th July, 1892.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE STUDENTS' NUMBER.

WE beg to call the attention of the Deans of Medical Schools and the Secretaries of Hospitals to the announcement that the Students' Number of THE LANCET for the session 1892-93 will be published on Saturday, Sept. 3rd. We also invite from them and from the members of the profession information regarding hospitals, institutions for medical education &c.—such particulars as are of importance to students generally, both in connexion with the general medical qualifications, the dental qualifications, and the qualifications in public health. This should be sent to the Sub-editor, THE LANCET Office, Strand, not later than the 25th inst.

THE FRENCH HOSPITALS AND THE TAX ON BETTING.

THE only form of betting sanctioned on French racecourses is that of the *pari-mutuel*. This form of betting is organised by agencies duly recognised by the police. The speculator purchases a ticket indicating the horse he has backed. If the horse wins, the money placed on other horses is given over to the winner, with a deduction, however, of 7 per cent. Two per cent. is kept by the agent as his commission for organising the *pari-mutuel* and the remaining 5 per cent. is handed over to the Assistance Publique—that is to say, the Government administration for the relief of the poor. By this means, out of the pleasures (perhaps we should add the follies) of the public, a considerable sum has been obtained for the promotion of useful or charitable works. Recently a sum of £39,160 has been distributed, which was thus derived from the *pari-mutuel*. It may be of interest to mention what institutions profited from this tax on betting. This is the list:—For the Released Prisoners' Help Society and the creation of an asylum, 24,000 fr.; for a *crèche* in the Rue de l'Ouest, 4000 fr.; for the assistance of the poor and the creation of a workshop for the unemployed of the Batignolles district, 15,000 fr.; for female prisoners and children morally abandoned, 40,000 fr.; for a workshop to train apprentices at Tracy (Oise), 10,000 fr.; to help workmen and create a workshop in the Sixth District of Paris, 10,000 fr; to the free fund for the purchase of workmen's tools, 3000 fr.; to the building of a new pavilion for the Maternity of Rueil, 50,000 fr.; and to the Society for the Assistance of the Blind, 400,000 fr. The above are, it will be seen, Parisian institutions. The blind come in for the largest share (£16,000), and a lying-in hospital gets £2000. A much larger share of the money given in the provinces goes to purely medical institutions. For the hospitals of Montbeliard and La Force (Dordogne), 50,000 fr.; for the new hospital at Bagnières de Luchon in the Garonne, 100,000 fr.; for the Hospital of Pour-le-Pin in Isère, 40,000 fr.; for the Rouen Asylum, 12,000 fr.; for the d'Aumale Asylum in the Seine Inférieure, 15,000 fr.; for the Labour Assistance Society of Lyons, 50,000 fr.; for the Nérat Asylum in the Lot et Garonne, 6000 fr.; for the poor of the town of Chaulenay, 15,000 fr.; and for the Maritime Hospital of Pen Bron, Loire Inférieure, 40,000 fr. These gifts, with one or two other items, make a total of 978,500 fr., or nearly £40,000. But there is still more money in hand. There is the question of creating on the shores of the Mediterranean a hospital where the scrofulous children from Paris may enjoy seaside treatment during the winter months. The decision as to what should be given for this purpose has been postponed. Considering the mischief that results from excessive betting on English racecourses many persons will be tempted to inquire whether, as we have frequently suggested, some means could not be devised by which this evil could be turned to the advantage of hospitals and similar institutions.

C. W.—Our correspondent's question is not a medical one and we are unable to reply to it. He had better inquire of the clerk to the authority.

SMALL-POX AND CHICKEN-POX.

To the Editors of THE LANCET.

SIRS,—The cases of small-pox at Saffron Walden bring to my recollection a somewhat similar occurrence when I was practising many years ago in the country. I was sent for late one evening to see the son (aged seventeen) of a farmer, about four miles from my residence. I found him suffering from a well-marked eruption of what I considered to be "chicken-pox." Just as I was leaving the house I accidentally discovered that he had returned from London that day, where he had been a clerk in a large establishment for about three weeks. As small-pox was then very prevalent in London I immediately corrected my diagnosis and on inquiry as to vaccination I found that none of the children—five in number—had ever been vaccinated, as the father had a rooted objection to vaccination. Fortunately I had two tubes of vaccine in my pocket-case and I quickly vaccinated every person in the house. (It may be worth mentioning that to eke out the vaccine I mixed it with a little glycerine.) The wrath of the father on his return home was great, and I was duly threatened with all sorts of legal horrors. The poor boy had a severe attack of confluent small-pox and succumbed on the eighth day. A small panic took place in the village, the house being situated in the very middle of the one street, and it was difficult to get proper help, but I proposed to revaccinate the six bearers engaged to carry the coffin to the church, about a hundred yards from the house. All but one consented and, singular to state, this man contracted the disease in a mild form. The rush of villagers after this to be revaccinated was startling and reminded me of my grandfather's days, when the votaries of venesection waited in a row outside the surgery door for their annual "blood-letting," a custom, by the bye, sadly abused, but one that in some cases might well be employed even in the present day. Exactly a fortnight after the burial of the boy, the father, who had attended the market at the neighbouring town on the previous day, and was noticed then to be in a "queer state," was seized with the complaint in its most malignant form and died from variola hæmorrhagica after forty-eight hours' illness in a comatose state. He was a man of enormous size, weighing over eighteen stone, a free liver and a spirit drinker, and I had literally to roll him from the bed into the coffin, no one save the nurse (who was pitted with small-pox) daring to touch him. It was not a pleasant office. No other case of small-pox occurred. All this happened before the laws of sanitation existed, but I have thought it worth recording.

I am, Sirs, yours faithfully,

London, July 23rd, 1892. B.

"BIRTH OF A CHILD WEIGHING FOURTEEN POUNDS."

To the Editors of THE LANCET.

SIRS,—A similar case to the one recorded in last week's issue of THE LANCET under the above heading has recently occurred in my own practice. The patient was well known to me and nothing unusual was noticed during pregnancy. She was confined within a few days of the expected date (June 16th), the labour being perfectly normal in every respect. The child (a girl) appeared of excessive size and weight. I did not take any measurements. The weight reached thirteen pounds and a half. The mother and child have progressed excellently. I may add that previous children have been unusually large. Another case, occurring on June 24th, is worthy of remark. The child three days after birth weighed twelve pounds—normal labour and recovery.

I am, Sirs, yours faithfully,

Bexhill-on-Sea, Sussex, July, 1892. RICHARD WATTS WHITE.

MICROSCOPY: SARCINÆ.

To the Editors of THE LANCET.

SIRS,—Would some microscopist give me a few directions how to mount "sarcinæ" as a permanent preparation for the microscope. I have tried mounting them in Canada balsam, but they shrivel up; then a cell was made with dammar varnish and filled with Beate's syrup and glycerine, the sarcinæ mixed and, when the cover-glass was put on, edged round with Holles' glue. Here, again, their contour was broken up. Finding all my efforts fruitless, some were tried in an ordinary glass cell, but again they were all spoiled. It is stated that they can be stained with fuschin, but I cannot succeed with the red. They would be very beautiful if stained. Any suggestion will be a great favour.

I am, Sirs, yours faithfully,

July, 1892. A NOVICE.

QUARANTINE A CENTURY AGO.

AMONG the terrors of the deep enumerated by Horace in his famous address to the ship which conveyed his friend Virgil to Athens quarantine has no place any more than sea-sickness. We know that the latter was familiar to seafaring antiquity, while the former existed, if at all, only in an occasional and arbitrary guise and was enforced against other visitations than those of disease. But practised as it was down to the most recent date, not only on ships of great tonnage, but on the small coasting craft peculiar to Mediterranean waters, it was found to be vexatious in the last degree. A light fishing smack, for instance, the *San Nicolò*, hailing from Hydra, one of the Cyclades, Zuanne Mechxe, master, on its way from Naples to the Romanian coast, underwent in 1793 a quarantine of four months and ten days' duration off the island of Poveglia in the Adriatic. During that time ten of its crew died of *pestis bubonica*, but its cargo, consisting of nine thousand cheeses, was unloaded immediately and conveyed to the neighbouring Venice without the diffusion in the city of contagion of any kind. The date, 1793, is noteworthy; for not long after, and certainly during the nineteenth century up to its last decade, quarantine was enforced on cargo as well as on crew, to the very serious prejudice of commercial interests. In fact, in the decennium 1875–85 Italian trade was paralysed, and that country is now congratulating herself on the "Ordinanze," whereby, even in presence of cholera, the restrictions on the unloading of cargo are minimised—reduced, in fact, to little more than a medical inspection, followed, if need be, by disinfection. For this happy change the *Opinione* thanks the Sanitary Congress lately held at Venice.

"FRIENDLY MEDICAL AID SOCIETIES."

To the Editors of THE LANCET.

SIRS,—Allow me to contribute a page from the life history of a very dear friend of mine, who, like some of your correspondents, held a somewhat erroneous view as to the incompatibility of holding an appointment under a friendly society and a due regard for the "dignity of the profession." In July, 1882, he passed his finals and left his *alma mater*, having graduated with honours. With a view to getting a good insight into general practice, he engaged as an in-door assistant at £70 a year to one of the largest firms of general practitioners in ——shire. In a few months he was put in charge of a branch practice at a distance of nine miles from town. In two years' time he had worked it up from £150 a year to £350, when it was sold from under him and he was politely discharged. At this time he had some thoughts of applying for an appointment under a friendly society in the adjacent town of ——, but was persuaded that such an engagement would be *infra dig.* In 1885 he obtained an out-door assistancy in the south of England at £140 and an unfurnished house. He married and spent his little savings in furnishing the house, only to hear in six months' time that he must make way for the nephew of his principal, who had recently qualified as L.S.A. Selling up his furniture at a loss of £40, he incurred a further expense of £20 in obtaining and removing to a new situation in ——, at the magnificent salary of £100 out-doors, *plus* half midwifery fees. Refurnishing his little cottage with what remained of his slender capital he enjoyed eighteen months' peace and hard work, only to be then told that his principal was about to retire and to sell his practice. Again breaking up his little home, he, with wife and child, had to seek another situation, and eventually found himself the accepted out of fifty-seven candidates for the position of manager of an East-end practice at the salary of £100 a year, out-doors, *plus* 5 per cent. on all takings. He recently died of acute rheumatism, brought about by exposure to severe weather in the fulfilment of his duty. Who dares to say that the subject of this brief sketch—alas, typical of hundreds of others—would not have acted more wisely in accepting the fair salary offered by the "Friendly Society" than by slaving himself to death in order to enrich the various "principals" whom he served. Sirs, I affirm that so long as qualified assistants are only offered the equivalent wage of a coachman, a third-rate French cook, or a gouty butler, they are perfectly justified in accepting appointments that will at all events ensure them bread and beese. A young practitioner who has spent his all in obtaining his degrees or diplomas has to choose between perpetual slavery as an assistant (getting possibly 4 or 4½ per cent. on the proceeds of his work) or the tolerably good wage and free hand of a "club doctor."

I am, Sirs, yours obediently,

Aug. 2nd, 1892. COMMON SENSE.

MUSHROOM "POISONING."

To the Editors of THE LANCET.

SIRS,—Never does a mushroom season come round but one meets with cases of so-called poisoning. The best treatment seems to consist in the exhibition of copious draughts of warm water, which provoke easy vomiting; and, then, what does one see? Almost invariably that true mushrooms have been swallowed in chunks unbitten. These large flabby masses cannot be coaxed through the pylorus and so must return through the œsophagus. And this is a case of "poisoning"! Let those of us who delight in the delicious esculent fungi attend to the detail of well biting before swallowing and we run small risk of being poisoned by mushrooms.—I am, Sirs, your obedient servant,

Melksham, Wilts, July 23rd, 1892. S. GROSE.

BOYS WITH FIREARMS.

IT is sincerely to be hoped that the magistrates will deal seriously with boys in the possession of firearms. For that matter the possession of firearms by irresponsible adults of all kinds has long become a question of great importance, but in the case of boys the offence is without excuse.

Mr. C. B. Statham (Battersea-park).—The best way would be for our correspondent to apply to the Military Secretary, India Office, for the information. We have occasionally published samples of the questions put at the examination.

MEDICAL ETHICS.

To the Editors of THE LANCET.

SIRS,—Hitherto the medical "gentlemen" practising their profession in the town in which I reside have always borne a high character for their gentlemanly conduct towards their professional brethren; but I am sorry to say it appears that we are now on the eve of losing our previous unblemished reputation, as the following will show. I have been for a long time medical officer to one of the largest railway clubs in —— and have always tried to do my duty to its members when requiring my assistance. Of course, in club practice (as in private) it is not always possible to please every member, and sometimes it is not always policy for every member to consult their club doctor. But when that is the case, and when another practitioner is consulted, surely it is most unprofessional on his part to say, "If any of your members have a wish to change their doctor I will be glad to take his place," "Several members of your club appear anxious to have a change, as they are not satisfied with Dr. ——," and so on. Conduct of that kind is reprehensible, and I hope you will mark your sense of its injustice in the usual manner.

I am, Sirs, yours truly,

Aug. 2nd, 1892. M.D. &c.

ERRATUM.—In the letter which we published under the heading of "'Cures' for Inebriety" the word "vindicate" in the last line but five of Dr. Keeley's communication ought to be *indicate*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Astley, Portobello; Dr. J. G. Adami, Cambridge; Mr. W. S. Andrew, Brixton Hill; Mr. Argo, Warrington; Mr. Anderson, London; Dr. G. Stewart Abram, Exeter; Mr. H. Andrews, Exeter; Mr. Armstrong, Walker-on-Tyne; Mr. Bonner, Suffolk; Mr. Behnke, London; Messrs. Bishop and Sons, London; Mr. Birchall, Liverpool; Messrs. A. P. Bush and Co., Boston; Dr. Brimacombe, Bristol; Mr. C. Beesley, Waltham Abbey; Dr. Bourke, London; Mr. Byrne, Wortham; Messrs. Burgoyne and Co., London; Mr. James Base, London; Dr. James Bays, South Hampstead; Mr. Alfred Browne, Osmotherly; Messrs. Challis and Co., Brighton; Mr. H. H. Collins, London; Mr. W. Watson Cheyne, London; Mr. Chibnall, London; Mr. Cotman, London; Mr. Thomas F. Chavasse, Birmingham; Mr. Bruce Clarke, London; Mr. Edward Cornish, Walthamstow; Mr. Carruthers, India; Mr. Cornish, Manchester; Mr. Davies, Birmingham; Mr. Eddington; Messrs. Eason and Sons, Dublin; Dr. Frank, Germany; Dr. Fitzpatrick, London; Professor Gairdner, Glasgow; Dr. S. Grose, Wilts; Mr. A. Gordon, Dublin; Mrs. Horn, Folkestone; Mr. Hutchinson, London; Dr. A. D. Hughes, Pembroke; Mr. Heywood, Manchester; Messrs. Hopkinson and Co., Nottingham; Messrs. Humphreys, London; Mr. Hunt, Manchester; Mr. F. G. Hallett, London; Mr. Jahncke, London; Dr. L. E. Keeley, London; Mr. Langley, Waterford; Dr. Lambert, British Columbia; Mr. W. Arbuthnot Lane, London; Mr. Loveland, New York; Dr. Mackay, Devizes; Dr. W. V. McVey, Boston; Mr. Jabez Hogg, London; Mr. G. L. Merriman, Weybridge; Messrs. Matthews Bros., London; Dr. B. G. Morison, London; Messrs. Mabbett and Edge, London; Mr. J. H. Morgan, London; Messrs. Mitchell and Co., London; Dr. T. G. H. Nicholson, Liverpool; Messrs. A. Newton and Co., London; Dr. Oswald, Thurloe; Messrs. Oppenheimer and Son, London; Mr. J. B. Pike, Loughborough; Mr. Platt, Hammersmith; Dr. Rae, Southport; Mr. C. Robertson, Alicedale, Cape Colony; Dr. Ridge, Enfield; Mr. R. Reid, Bailleston; Dr. W. Russell, Edinburgh; Mr. T. R. Russell, Liverpool; Messrs. Reynolds and Branson, Leeds; Professor Stuart, Sydney; Messrs. H. Sarson and Sons, London; Mr. D. W. Samways, Southsea; Messrs. Street and Co., London; Dr. Snow, London; Dr. Sturges, London; Dr. Steele, London; Messrs. Sells, London; Mr. Saunders, Manchester; Mr. Statham, Battersea; Messrs. Usher, Bristol; Mr. J. H. Williamson, Manchester; Mr. Welch, Nantwich; Mr. Webb, Bury; Mr. Roger Williams, Preston; Dr. J. R. White, Brentwood; Messrs. Wright and Co., Bristol; Dr. Waring, Northwich; Mr. Wand, Leicester; Dr. Hugh Woods, London; Mr. Williams, Oswestry; Dr. Stanley Yeoman, Morpeth; A. A., London; Associated Press, London; Cantab; Cortland Wagon Co., London; Enquirer, Wilts; Isis, Cheltenham; International News Co., London; Kent and Canterbury Hospital; M.A., London; M.D., Dublin; Nurse, London; National Hospital for the Paralysed, London; Surrey, London; Vera, London; Yorkshire College, Leeds.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Ager, Peterborough; Dr. Alderson, London; Mr. Adkins, Banbury; Miss Blott, London; Mr. Bigg, London; Dr. Bury, Wigan; Messrs. Beaman and Street, Ashton; Dr. Burgess, Cricklewood; Messrs. Blondeau and Co., London; Mr. Brickwell, Watford; Dr. Bobardt, Newbury; Mr. Booth, Pinner; Mr. Browne, Isle of Man; Mr. Bourne, Stourport; Mr. Cochrane, Greenock; Dr. Cressy, Mansfield; Dr. Crook, Margate; Mr. Clowes, Colchester; Mr. Copner, Ilfracombe; Mr. Dixey, Strathpeffer; Mrs. Danks, Wolverhampton; Messrs. Eckersley and Co., Manchester; Miss Edwards, Worthing; Mr. Fitness, Harborne; Mr. Fox, Chesterfield; Mr. Fiske, London; Mr. Grant, Somerset; Dr. Gunnell, Wrexham; Mr. Harman, Taunton; Mr. Hamilton, Harthill; Mr. Hornibrook, London; Dr. Hare, Durham; Mr. Hicks, London; Dr. Holmes, Manchester; Mr. Hunt, Biggleswade; Mr. Halford, sen., London; Messrs. Hooper and Co., London; Mr. Jeffreys-Powell, Brecon; Dr. Kerr, London; Mr. Kerr, York; Messrs. Lloyd and Co., Leicester; Mr. Merry, Hemel Hempstead; Mr. Mainwaring, London; Dr. Michael, London; Mr. McKelvie, Norwich; Miss Manley, Croydon; Mr. Price, Cardiff; Mr. Platt, London; Mr. Rains, Matlock; Mr. Rutter, Cape Town; Messrs. Richards and Co., London; Dr. Rockliffe, Hull; Dr. Slater, Devon; Messrs. Squire and Sons, London; Messrs. Stanley, Rotherham; Messrs. Slinger and Sons, York; Dr. Skardon, Evershot; Dr. Stacey, Leeds; Dr. Smith, Kettering; Mr. Shipley, London; Dr. Spowart, Chesterfield; Dr. Tonge, Kettering; Mr. Tyte, Minchinhampton; Mr. Thomas, Liverpool; Mr. Todd, Selby; Mr. Vacher, Birkenhead; Mr. Van Praagh, London; Miss Vicary, Somerset; Mr. Wood, Hull; Messrs. Walker and Co., Yorkshire; Mr. Wylie, Kingsbridge; Mr. Weston, Handsworth; Mr. Wills, Halton; A., Kirkburton; A. B. C., London; Alpha, London; Beta, London; *Birmingham Daily Post*; Country G.P., London; C. C., London; Chirurgus, London; Mrs. C., London; Class Rooms, Edinburgh; Dalhabity, Aberdeen; Driving, London; Duplex, London; Ellis, London; Erin, Bradford; Erin, London; F.R.C.S., Dublin; Gerald, Cheshire; Graduate, London; Great Eastern Railway, London; Hanover Institute for Nurses, London; Homo, London; Isis, London; L. M. E., London; Maltine Co., London; Medicus, Crewe; Medicus, London; M.B., Leamington; Nemo, Birmingham; Nemo, London; Nucleus, London; O. R., London; Pharmacy, Derby; Querulus, London; R. N. U. P., London; R. T., Clapham; Radcliffe Infirmary; Royal Albert Hospital, Devonport; Ryde Nursing Institution; Student, Birmingham; Solicitor, London; Vaccine Lymph Association, London; Venator, London; Wrexham, London; X. Y., London; Zeno, London; Z. A. P., London.

NEWSPAPERS.—*Birmingham Daily Post, Newcastle Daily Journal, Yorkshire Post, Civil and Military Gazette (Lahore), Leeds Mercury, Liverpool Daily Post, Kingston Express, Freeman's Journal, Glasgow Herald, Argus (Brighton), Birmingham Post, Manchester Courier, Leicester Mercury, Nottingham Guardian, Scottish Leader, Insurance Record, Hertfordshire Mercury, Reading Mercury, Weekly Free Press and Aberdeen Herald, Scotsman, Le Temps (Paris), West Middlesex Standard, Surrey Advertiser, Windsor and Eton Gazette, Local Government Chronicle, City Press, Mining Journal, Western Morning News, Dundee Advertiser, Builder, Vegetarian, West Middlesex Advertiser, Windsor and Eton Express, Record, Donegal Vindicator, Gercott's Penny Mail (Cape Colony), Oban Times, Donegal Independent, Chichester Observer, Australian Medical Journal (Melbourne), Brighton Guardian, Architect, Australian Medical Gazette (Sydney), Melbourne Age, Malvern Advertiser, Suffolk Chronicle, Hull News, The Welshman, The Child's Guardian, &c.*, have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 4th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 29	30·20	E.	57	53	114	72	52	...	Bright
,, 30	30·18	E.	57	54	114	75	54	...	Overcast
,, 31	30·11	W.	63	59	109	77	56	..	Cloudy
Aug. 1	29·93	N.W.	65	61	101	71	60	·73	Cloudy
,, 2	30·16	N.	57	53	100	65	53	·01	Bright
,, 3	30·10	W.	60	56	110	72	56	..	Cloudy
,, 4	30·07	N.W.	61	56	108	65	56	..	Cloudy

Medical Diary for the ensuing Week.

Monday, August 8.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, August 9.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, August 10.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, August 11.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, August 12.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, August 13.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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